STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), and IDEM's authority under IC 13-15,

U.S. STEEL - GARY WORKS
U.S. STEEL GROUP, A UNIT OF UNITED STATES STEEL LLC

is authorized to discharge via designated outfall locations, from an Integrated Steel Mill facility which manufactures iron and steel products, and coke and coke making byproducts that is located at One North Broadway, Gary, Indiana 46402, to receiving waters named the Grand Calumet River, Lake Michigan and Stockton Pond in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III, hereof.

Effective Date: _____

Expiration Date: _____

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed this ____ day of _____ for the Indiana Department of Environmental Management.

_____
Timothy J. Method
Deputy Commissioner

TREATMENT FACILITY CLASSIFICATION

The discharger has ten industrial wastewater treatment plants rated as Class D, classified in accordance with 327 IAC 5-22, Classification of Water and Wastewater Treatment Plants.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water used in the coke and coke byproducts manufacturing processes, non-contact cooling water used in the coke oven gas desulfurization facility (through Internal Outfall 502), treated process wastewater from the coke and coke byproducts manufacturing processes (through Internal Outfall 501), and storm water runoff to the Grand Calumet River, via Outfall 005. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[12][15]
Outfall 005

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	------	------	----	Daily	Continuous
Oil & Grease[1]	---	---	---	---	Report	mg/l	10 X Monthly*	3 Grabs/24-Hrs
Selenium[5]	1.8	4.2	lbs/day	3.5	8.2	µg/l	10 X Monthly*	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	µg/l	3 X Monthly	3 Grabs/24-Hrs
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	µg/l	10 X Monthly*	24-Hr. Comp.
Final[14]	0.04	0.09	lbs/day		0.08	0.18 µg/l		10 X Monthly*24-Hr. Comp.
Ammonia(as N)[6]								
Summer	217.0	387.0	lbs/day	720	1,700	µg/l	10 X Monthly*	24-Hr. Comp.
Winter	437.0	962.0	lbs/day	1,200	2,800	µg/l	10 X Monthly*	24-Hr. Comp.
Free Cyanide[2]	1.9	4.3	lbs/day	3.7	8.5	µg/l	10 X Monthly*	3 Grabs/24-Hrs
Mercury[5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly	Grab
Final[13]	0.0007	0.002	lbs/day	1.4	3.2	ng/l	Bi-Monthly	Grab
Total Residual Chlorine[8]	4.1	9.2[10]	lbs/day	8	18	µg/l	Daily[9]	Grab
$CBOD_5$	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Benzo(a)anthracene								
Interim	Report	Report	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Final[3]	0.01	0.02	lbs/day	0.02	0.04	µg/l	10 X Monthly*	24-Hr. Comp.
Fluoride	Report	Report	lbs/day	Report	Report	µg/l	3 X Monthly	24-Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.

Discharge Limitations[12][16]
Outfall 005 Cont.

Parameter	Quantity or Loading Monthly Average	Daily Maximum	Units	Quality or Concentration Monthly Average	Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Sample Type
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Vanadium[5][11]	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	24-Hr. Comp.
Strontium[5][11]	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	24-Hr. Comp.
Zirconium[5][11]	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	24-Hr. Comp.
Whole Effluent Toxicity	See Part I.L., Biomonitoring Requirements							
Temperature[4]								
Interim	------	-----	-------	-------	Report	°F	1 X Monthly	6 Grabs/24-Hrs.
Final	------	-----	------	-------	Report	°F	Daily	Continuous
Temperature Exceedance Time[4]	-------	Report	Minutes				Daily	Continuous
Thermal Discharge[4]	------	Report	BTU/Hr.				Daily	Report

				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	3 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.

[3] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitation for Benzo(a)anthracene. Interim limitations shall apply until the final limits take effect.

[4] See Part III.A., Thermal Effluent Requirements.

[5] The permittee shall monitor and report the identified metals as total recoverable metals.

[6] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.

[7] See Part I.R. for Mercury Monitoring Requirements.

[8] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed.

[10] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 30.6 lbs/day for Outfall 005.

[11] The above noted parameters shall be monitored to determine whether or not they are present in quantities that have the reasonable potential to exceed the calculated water quality based effluent limits. At the end of a twelve month sampling period, the permittee may request, in writing, a review of these requirements. Upon review by IDEM, the permit may be modified, after public notice and opportunity for hearing, to delete the monitoring requirements or to include appropriate effluent limitations.

[12] The following water treatment additives in use at Outfall 005 have been reviewed and are approved for use by the Commissioner: Optisperse ADJ1030, Optisperse APO200, Spectrus DT1404, Cortrol IS3000, Steamate NAO160, Sodium Hypochlorite, Nalco 7469 Antifoam, and Nalco 7768. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[13] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[14] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.F. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.

[15] To ensure that process waters from current coke plant operations are not discharged, U.S. Steel shall certify to that effect with each monthly discharge monitoring report as follows:

> "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing

and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."

2. During the period beginning on the effective date of this permit, the permittee is authorized to discharge cokemaking and by-product recovery area treatment system water from Internal Outfall 501 to Outfall 005, thence to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[4]
Internal Outfall 501

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
TSS	1,135	2,184	lbs/day	Report	Report	mg/l	2 X Weekly	24 Hr. Comp.
Oil & Grease	---	81.0	lbs/day	---	Report	mg/l	10 X Monthly*	3 Grabs/24 Hours
Selenium[1]	Report	Report	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Benzene	---	0.41	lbs/day	---	Report	µg/l	10 X Monthly*	3 Grabs/24 Hours
Benzo-a-pyrene	Report	0.41	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Naphthalene	---	0.41	lbs/day	---	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Phenols (4AAP)	0.41	0.81	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Ammonia (as N)	203.0	690.0	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Cyanide[2]								
Total	44.6	81.0	lbs/day	Report	Report	µg/l	10 X Monthly*	3 Grabs/24 Hours
Free	Report	Report	lbs/day	Report	Report	µg/l	10 X Monthly*	3 Grabs/24 Hours
Vanadium[1][3]	Report	Report	lbs/day		Report	Report	µg/l	3 X Monthly24-Hr. Comp.
Strontium[1][3]	Report	Report	lbs/day		Report	Report	µg/l	3 X Monthly24-Hr. Comp.
Zirconium[1][3]	Report	Report	lbs/day		Report	Report	µg/l	3 X Monthly24-Hr. Comp.
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	3 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] The permittee shall measure and report the identified metals as total recoverable metals.

[2] Cyanide shall be measured and reported as Total Cyanide and as Free Cyanide, Weak Acid

Dissociable (WAD). See part I.Q. for additional requirements.

[3] The above noted parameters shall be monitored to determine whether or not they are present in quantities that have the reasonable potential to exceed the calculated water quality based effluent limits. At the end of a twelve month sampling period, the permittee may request, in writing, a review of these requirements. Upon review by IDEM, the permit may be modified, after public notice and opportunity for hearing, to delete the monitoring requirements or to include appropriate effluent limitations.

[4] REMEDIATION GROUNDWATER

"Compatible Treated Wastewater From Ground Water Remediation Project" for purposes of this permit means ground waters that are contaminated with pollutants that can be treated and removed at the cokemaking and by-product recovery wastewater treatment facility, Outfall 501 and Outfall 005. Other ground waters shall be pretreated prior to introduction to this wastewater treatment facility to remove or treat those pollutants that are not limited or that cannot be effectively removed or treated at this wastewater treatment facility.

The permittee shall notify IDEM at least thirty (30) days prior to the date it desires to introduce compatible or pretreated ground waters from any ground water remediation project, to this wastewater treatment facility at the Gary Works. Such notification shall include the volume of ground water to be treated and discharged; a description of any groundwater pretreatment facilities; identification, concentrations and mass loadings of contaminants in the untreated groundwater; identification, and expected concentrations and mass loadings of contaminants in the pretreated groundwater prior to introduction of ground water to this wastewater treatment facility; and, identification and expected concentrations and mass loadings of ground water contaminants to be discharged from the wastewater treatment facility. IDEM shall evaluate the information submitted to determine if a permit modification is required under 327 IAC 5-2-16. Discharge of this waste stream shall not commence until U.S. Steel receives written approval from IDEM.

3. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from the coke oven gas desulfurization facility, from Internal Outfall 502 to Outfall 005, thence to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations
Internal Outfall 502

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	---	---	---	1 X Weekly	Report
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		Report	Report	s.u.	1 X Weekly	Grab

4. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water used in the coke and coke byproducts manufacturing processes, treated blast furnace recycle system wastewater (through Internal Outfall 508), and storm water runoff via Outfall 010. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][15][16]
Outfall 010

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	------	------	----	Daily	Continuous
Oil & Grease[2]	---	---	---	---	Report	mg/l	10 X Monthly*	3 Grabs/24-Hrs
Total Residual Chlorine[8]	0.1	0.2[11]	lbs/day	8	18	µg/l	Daily[9]	Grab
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	µg/l	10 X Monthly*	24-Hr. Comp.
Final[14]	0.001	0.002	lbs/day	0.08	0.18	µg/l	10 X Monthly*	24-Hr. Comp.
Ammonia(as N)[10]								
Summer	113.0	338.0	lbs/day	720	1,700	µg/l	10 X Monthly*	24-Hr. Comp.
Winter	113.0	338.0	lbs/day	1,200	2,800	µg/l	10 X Monthly*	24-Hr. Comp.
Free Cyanide[3]	0.04	0.1	lbs/day	3.7	8.5	µg/l	10 X Monthly*	3 Grabs/24-Hrs
Mercury[5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[12]	Grab
Final[13]	0.00002	0.00004	lbs/day	1.4	3.2	ng/l	Bi-Monthly[12]	Grab
Chloride	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
$CBOD_5$	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Lead[5][6]	Report	Report	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Zinc[5][6]	Report	Report	lbs/day	Report	Report	µg/l	10 X Monthly*	24-Hr. Comp.
Temperature[4]								

Interim	------	-----	-------	-------	Report	°F	1 X Monthly	6 Grabs/24-Hrs.
Final	------	-----	------	-------	Report	°F	Daily	Continuous
Temperature[4]								
Exceedance Time	-------	Report	Minutes				Daily	Continuous
Thermal Discharge	------	Report	BTU/Hr.				Daily	Report
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	3 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] There shall be no discharge of coke and coke byproducts manufacturing process wastewater (except treated blast furnace recycle system wastewater - Internal Outfall 508), other than non-contact cooling water through Outfall 010.

[2] Additional monitoring and reporting requirements are contained in Part I.O.**,** Visible Oil Corrective Action Monitoring Program.

[3] Cyanide shall be measured and reported as Free Cyanide, Weak Acid Dissociable (WAD). See Part I.Q. for additional requirements.

[4] See Part III.A. for additional Thermal Effluent Requirements.

[5] The permittee shall monitor and report the identified metals as <u>total recoverable metals</u>.

[6] The monitoring and reporting requirements shall apply only when there is a discharge from the blast furnace recycle system through Internal Outfall 508.

[7] See Part I.R. for Mercury Monitoring Requirements.

[8] See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed.

[10] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.

[11] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.7 lbs/day for Outfall 010.

[12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[13] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[14] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.F. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.

[15] The following water treatment additives in use at Outfall 010 have been reviewed and are approved for use by the Commissioner: Spectrus DT1404 and Sodium Hypochlorite. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 010, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[16] To ensure that process waters from current coke plant operations are not discharged, U.S. Steel shall certify to that effect with each monthly discharge monitoring report as follows:

> "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."

5. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated Blast Furnace Recycle System wastewater from Internal Outfall 508 to the Grand Calumet River through Outfall 010. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations
Internal Outfall 508

Quantity or Loading		Quality or Concentration		Monitoring Requirements	
Monthly	Daily	Monthly	Daily	Measurement	Sample

Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	___	___	__	Daily	Continuous
TSS	500	750	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp
Ammonia-N	113.0	338.0	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp
Cyanide, Total[1]	3.18	7.38	lbs/day	Report	Report	mg/l	10 X Monthly*	3 Grabs/24 Hrs
Phenols(4AAP)	1.13	2.25	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp
Lead[2]	2.23	5.17	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp
Zinc[2]	5.1	15.2	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp
				Minimum Daily	Maximum Daily			
pH	----	------		Report	Report	s.u.	1 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. for additional requirements.

[2] The permittee shall measure and report the identified metals as total recoverable metals.

6. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from blast furnace and sinter plant, steam condensate, treated SWD-1 Landfill wastewater, North Tennessee Street Drainage Sump Treatment Plant effluent, and storm water runoff through Outfall 015 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][11]
Outfall 015

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	24-Hr. Comp.
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	Daily	24-Hr. Comp.
$CBOD_5$	Report	Report	lbs/day		Report	Report		mg/l 3 X Monthly 24-Hr. Comp.
Free Cyanide[3]	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	3 Grabs/24-Hrs
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Temperature[5]								

Interim	—	—	—	—	Report	°F	3 X Weekly	Grab
Final	---	---	---	---	Report	°F	Daily	Continuous
Thermal Discharge [5]	---	Report	BTU/Hr	---	---	---	Daily	Report
Temperature Exceedance Time[5]	-------	Report	Minutes				Daily	Continuous
Total Residual Chlorine [6]	0.11	0.25	lbs/day	8	18	ug/l	Daily [7]	Grab
Mercury [4][8][9]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[10]	Grab
Final	0.00002	0.00004	lbs/day	1.4	3.2	ng/l	Bi-Monthly[10]	Grab

			Minimum Daily	Maximum Daily			
pH	----	------	6.0	9.0	s.u.	1 X Weekly	Grab

[1] The discharge of noncontact cooling waters from blast furnace and sintering operations is permitted only through Outfalls 015, 018, 019 and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] Cyanide shall be measured and reported as Free Cyanide. See part I.Q. for additional requirements.

[4] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[5] See Part III.A., Thermal Effluent Requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.8 lbs/day.

[7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[8] See Part R. for Mercury Monitoring Requirements.

[9] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[11] The following water treatment additives in use at Outfall 015 have been reviewed and are approved for use by the Commissioner: Spectrus DT1404 and Sodium Hypochlorite. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 015, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

7. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated SWD-1 Landfill wastewaters through Outfall 607 to the Grand Calumet River via Outfall 015. Such discharge shall be limited and monitored as specified below:

Discharge Limitations
Outfall 607

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	30.0	60.0	mg/l	1 X Weekly	24-Hr. Comp
Oil & Grease	Report	Report	lbs/day	10.0	15.0	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp
Total Cyanide[1]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	3 Grabs/24-Hrs
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp
Lead [2]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp
Zinc [2]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp
Benzo-a-pyrene	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarterly[3]	24-Hr. Comp
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Weekly	Grab

[1] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. of the permit for additional requirements.

[2] The permittee shall measure and report identified metals as total recoverable metals.

[3] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

8. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air compressor noncontact cooling water and storm water from Outfall 017 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[9]
Outfall 017

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	24-Hr. Total
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	24-Hr. Comp.
Oil & Grease [1]	—	—	--	---	10.0	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	Daily	24-Hr. Comp.
Total Cyanide [2]	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	3 Grabs/24-Hrs
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	24-Hr. Comp.
Lead [3]	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	3 X Monthly	24-Hr. Comp.
Mercury [3][4][5]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[6]	Grab
Final	0.00000075	0.000002	lbs/day		1.4	3.2 ng/l	Bi-Monthly[6]	Grab
Total Residual Chlorine [7]	0.11	0.010	lbs/day	8	18	ug/l	Daily [8]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Weekly	Grab

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. for additional requirements.

[3] The permittee shall measure and report identified metals as total recoverable metals.

[4] See Part R. for Mercury Monitoring Requirements.

[5] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[6] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.03 lbs/day.

[8] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] The following water treatment additives in use at Outfall 017 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 017, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

9. During the period beginning on the effective date of this permit, the permittee is authorized to discharge blast furnace and sinter plant noncontact cooling water, storm water runoff and turboboiler blowdown, stock house misc. steam condensate & air conditioner noncontact water through Outfall 018 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][10]
Outfall 018

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Weekly	Grab

Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
$CBOD_5$	Report	Report	lbs/day		Report	Report	mg/l 3 X Monthly	24-Hr. Comp.
Total Cyanide[4]	---	Report	lbs/day	---	Report	mg/l	1 X Monthly	3 Grabs/24-Hrs
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	3 X Weekly	24-Hr. Comp.
Copper [5][11]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final	5.0	11.2	lbs/day		0.012	0.027 mg/l		10 X Monthly*24-Hr. Comp.
Mercury[5][6][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[12]	Grab
Final	0.0006	0.0013	lbs/day	1.4	3.2	ng/l	Bi-Monthly[12]	Grab
Temperature[3]								
Interim	—	—	—	—	Report	°F	1 X Monthly	6 Grabs/24-Hr. Comp.
Final	---	---	---	---	Report	°F	Daily	Continuous
Thermal Discharge[3]	---	Report	BTU/Hr.	--	---	---	Daily	Report
Temperature Exceedance Time[3]	-------	Report	Minutes				Daily	Continuous
Total Residual Chlorine [8]	3.3	7.5	lbs/day	8	18	ug/l	Daily [9]	Grab

			Minimum Daily	Maximum Daily			
pH	----	------	6.0	9.0	s.u.	1 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] The permittee may discharge noncontact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019 and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] See Part III.A. of the Permit for the Thermal Effluent Requirements.

[4] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. for additional requirements.

[5] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[6] See Part R. for Mercury Monitoring Requirements.

[7] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply

until the final limits take effect.

[8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 25.0 lbs/day.

[9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[10] The following water treatment additives in use at Outfall 018 have been reviewed and are approved for use by the Commissioner: Optisperse ADJ1030, Spectrus DT1404, Optisperse APO200, Cortrol IS3000, sodium Hypochlorite, and Steamate NA0540. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 018, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[11] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitation for Copper. Interim limitations shall apply until the final limits take effect.

[12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

10. During the period beginning on the effective date of this permit, the permittee is authorized to discharge blast furnace and sinter plant noncontact cooling water, storm water runoff, power station and No. 2 Q-BOP noncontact cooling water, CWT plant brine regenerant, turboboiler blowdown and steam condensate through Outfall 019 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][10]
Outfall 019

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Oil & Grease[1]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Temperature[2]								

Interim	—	—	—	—	Report	°F	1 X Monthly	Grab	
Final	---	---	---	---	Report	°F	Daily	Continuous	
Temperature									
Exceedance Time[2]	-------	Report	Minutes				Daily	Continuous	
Thermal									
Discharge[2]	---	Report	BTU/Hr.	---	---	---	Daily	Report	
$CBOD_5$	Report	Report	lbs/day		Report	Report		mg/l	3 X Monthly 24-Hr. Comp.
Total Cyanide[3]	---	Report	lbs/day	---	Report	mg/l	1 X Monthly	3 Grabs/24-Hrs	
Mercury [4][5][6]									
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[11]	Grab	
Final	0.0006	0.0014	lbs/day		1.4	3.2	ng/l	Bi-Monthly[11]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.	
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.	
Total Residual									
Chlorine [7]	3.5	7.8	lbs/day	8	18	ug/l	Daily [8]	Grab	

				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Week	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] See Part III.A. of the Permit for the Thermal Effluent Requirements.

[3] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. for additional requirements.

[4] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[5] See Part R. for Mercury Monitoring Requirements.

[6] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 25.9 lbs/day.

[8] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitation for Copper. Interim limitations shall apply until the final limits take effect.

[10] The following water treatment additives in use at Outfall 019 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 019, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[11] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

11. During the period beginning on the effective date of this permit, the permittee is authorized to discharge No. 1 BOP Shop noncontact cooling water and No. 1 continuous caster noncontact cooling water through Outfall 020 to the Grand Calumet River (Segment 4). Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations [1][9]
Outfall 020

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
$CBOD_5$	Report	Report	lbs/day		Report	Report	mg/l	3 X Monthly 24-Hr. Comp.
Temperature[3]								
Interim	—	—	—	—	Report	°F	1 X Monthly	6 Grabs/ 24 Hrs.
Final	---	---	---	---	Report	°F	Daily	Continuous
Temperature Exceedance Time[3]	-------	Report	Minutes				Daily	Continuous
Thermal Discharge[3]	---	Report	BTU/Hr.	--	---	---	Daily	Report
Lead	5.9	16.1	lbs/day	0.011	0.03	mg/l	10 X Monthly*	24-Hr. Comp.
Zinc	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [4][5][6]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[10]	Grab
Final	0.00075	0.002	lbs/day	1.4	3.2	ng/l	Bi-Monthly[10]	Grab

Total Residual Chlorine [7]	4.3	9.7	lbs/day	8	18	ug/l	Daily [8]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] There shall be no discharge of any steelmaking area process wastewater (steelmaking, vacuum degassing and continuous casting) or other process wastewaters from Outfall 020.

[2] See Part I.O., Oil and Grease Monitoring.

[3] See Part III.A. of the Permit for the Thermal Effluent Requirements.

[4] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[5] See Part R. for Mercury Monitoring Requirements.

[6] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 25.9 lbs/day.

[8] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[9] The following water treatment additives in use at Outfall 020 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 020, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

12. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air compressor cooling water, air conditioning condensates and storm water runoff Outfall 021, to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations [1][4]
Outfall 021

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Oil & Grease	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [2]	0.04	0.09	lbs/day	8	18	ug/l	Daily [3]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through this outfall.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.3 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed.

[4] The following water treatment additives in use at Outfall 021 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 021, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

13. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air conditioning and steam condensates, and storm water runoff through Outfall 023 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1]
Outfall 023

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Measurement Frequency	Requirements Sample Type
Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Oil & Grease	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [2]	0.007	0.02	lbs/day	8	18	ug/l	Daily [3]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through this outfall.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.05 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

14. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air conditioning and steam condensates, and storm water runoff through Outfall 026 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1]
Outfall 026 (Inactive)

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Measurement Frequency	Requirements Sample Type
Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Oil & Grease	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine	Report	Report	lbs/day	8	18	ug/l	Daily [2]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] US Steel shall notify the Compliance Evaluation Section of the Office of Water Quality (OWQ) at least 30 days prior to re-activation of this outfall.

[2] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

15. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge treated wastewater from steelmaking, vacuum degassing, continuous casting and hot forming process wastewaters; storm water runoff; noncontact cooling water (minor flow); and, direct contact slab cooling water through Outfalls 028 and 030. The permittee is authorized to discharge from Outfalls 028 & 030 (combined total) and reported as Outfall 600 to the Grand Calumet River (Segment 5). Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations [1][9]
Outfalls 028/030 (600)

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	24-Hr. Total
Total Suspended Solids	2,038	5,933	lbs/day	Report	Report	mg/l	5 X Weekly	24-Hr. Comp.
Oil & Grease[4]	123	687	lbs/day	Report	Report	mg/l	5 X Weekly	2 Grabs/ 24-Hrs.
$CBOD_5$	Report	Report	lbs/day		Report	Report		mg/l 3 X Monthly 24-Hr. Comp.
Lead [3]	6.34	14.73	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Mercury [3][5]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[8]	Grab
Final	0.0004	0.0009	lbs/day	1.4	3.2	ng/l	Bi-Monthly[8]	Grab
Fluoride								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final	1571	3647	lbs/day	5.9	13.7	mg/l	10 X Monthly*	24-Hr. Comp.
Total Residual Chlorine [6]	2.1	4.8	lbs/day	8	18	ug/l	Daily [7]	Grab
Temperature[2]								
Interim	------	-----	-------	-------	Report	°F	1 X Monthly	6 Grabs/24-Hrs.
Final	------	-----	------	-------	Report	°F	Daily	Continuous
Temperature Exceedance Time[2]	-------	Report	Minutes				Daily	Continuous
Thermal Discharge[2]	------	Report	BTU/Hr.				Daily	Report
Whole Effluent Toxicity	See Part I.L., Biomonitoring Requirements							

			Minimum Daily	Maximum Daily			
pH	----	------	6.0	9.0	s.u.	1 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] The permittee shall measure and report Outfalls 028 and 030 separately and as a combined total (Outfall 600).

[2] See Part III.A. of the permit for the Thermal Effluent Requirements.

[3] The permittee shall measure and report the identified metals as total recoverable metals.

[4] Additional monitoring and reporting requirements are contained in Part I.O**.,** Visible Oil Corrective Action Monitoring Program.

[5] See Part R. for Mercury Monitoring Requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 16.0 lbs/day.

[7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[8] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[9] The following water treatment additives in use at Outfall 028 have been reviewed and are approved for use by the Commissioner: Spectrus DT1404, Sodium Hypochlorite, Klaraid CDP2702, Klaraid CDP1302, ScaleTrol PDC9302, Polyfloc AE1123, Depositrol BL5301, and Dianodic DN2300. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 028, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

16. During the period beginning on the effective date of this permit, the permittee is authorized to discharge BOP treatment, vacuum degasser and continuous casting

treatment wastewater through Outfall 603 to the Grand Calumet River via Outfall 030. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations [1]
Outfall 603

	Quantity or Loading			Quality or Concentration				Monitoring Requirements	
	Monthly	Daily		Monthly		Daily		Measurement	Sample
Parameter	Average		Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	---		---	---	Daily	Continuous
Lead [2]	8.7	26.1	lbs/day	Report		Report	mg/l	10 X Monthly*[3]	24-Hr. Comp.
Zinc [2]	13.1	39.1	lbs/day	Report		Report	mg/l	10 X Monthly*[3]	24-Hr. Comp.
				Minimum Daily	Maximum Daily				
pH	----	------		Report	Report	s.u.		1 X Weekly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfall 030. Separate samples and flow measurements shall be taken at the discharge of the No. 1 Continuous Caster Scale Pit, the filtered blowdown from the No. 2 Continuous Caster, and the discharge of the No.1 and No.1A BOP Thickeners. The mass loadings from each monitoring point shall be calculated and added together to determine the daily and monthly average mass discharges.

[2] The permittee shall measure and report the identified metals as <u>total recoverable metals</u>.

[3] Sampling at 603 for lead and zinc shall occur on the same days as samples taken at Outfalls 028 and 030.

17. During the period beginning on the effective date of this permit, the permittee is authorized to discharge freeze protection water and storm water runoff through Outfall 032 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations [1][4]
Outfall 032

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type

Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Oil & Grease	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [2]	0.02	0.045	lbs/day	8	18	ug/l	Daily [3]	Grab

			Minimum Daily	Maximum Daily			
pH	----	------	6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters from the Gary Works facility through Outfall 032. US Steel shall monitor the discharge from the Gary Works facility at a point that will still be representative of the discharge from Gary Works but is upstream of the connection of the Grand Calumet Dredging discharge point.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.15 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[4] The following water treatment additives in use at Outfall 032 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 032, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

18. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from sheet and tin mills, nonprocess wastewater from the EJ&E Railroad, and storm water runoff through Outfall 033 to the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][5]
Outfall 033

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type

Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Phenols (4AAP)	---	Report	lbs/day	---	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [3]	0.01	0.03	lbs/day	8	18	ug/l	Daily [4]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through Outfall 033.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.1 lbs/day.

[4] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[5] The following water treatment additives in use at Outfall 033 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 033, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

19. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated wastewater from Internal Outfalls 604, 605 and 606 and storm water runoff through Outfall 034 to the Grand Calumet River. The discharge from Outfall 034 shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][6][14]
Outfall 034

	Quantity or Loading			Quality or Concentration			Monitoring Requirements[2]	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type

Flow	Report	Report	MGD	---	---	---	Daily	Continuous
$CBOD_5$ [4]								
Summer	1,334	2,669	lbs/day		5.6	11.2	mg/l	10 X Monthly* 24-Hr. Comp.
Winter	4,537	9,074	lbs/day	19.12	38.24	mg/l	10 X Monthly*	24-Hr. Comp.
Oil & Grease[5]	1,515	5,171	lbs/day	Report	Report	mg/l	5 X Weekly	2 Grabs/24-Hrs.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [8]	2.52	5.85	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Mercury [8][11][12]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly[15]	Grab
Final	0.0003	0.0008	lbs/day	1.4	3.2	ng/l	Bi-Monthly[15]	Grab
Benzo(a)anthracene[10]								
Interim	Report	Report	lbs/day	Report	Report	ug/l	10 X Monthly*	24-Hr. Comp.
Final	0.02	0.03	lbs/day	0.06	0.14	ug/l	10 X Monthly*	24-Hr. Comp.
Phenols (4AAP)	26.00	39.00	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Residual Chlorine[7][9]	1.9	4.3	lbs/day	8	18	ug/l	10 X Monthly*	2 Grabs/24-Hrs.
Dissolved Oxygen	Daily minimum of 5.0 mg/l							
Temperature[3]	------	---	---	---	Report	°F	1 X Monthly	2 Grabs/24-Hrs.
Thermal Discharge[3]	------	Report	BTU/Hr	---	---	---	1 X Monthly	Report
Whole Effluent Toxicity	See Part I.L., Biomonitoring Requirements							

			Minimum Daily	Maximum Daily			
pH	----	------	6.0	9.0	s.u.	[13]	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] The permittee shall only discharge the effluents from Internal Outfalls 604, 605 and 606 through Outfall 034.

[2] The permittee shall monitor Outfalls 034, 604, 605 and 606 on the same days.

[3] See Part III.A. of the permit for the Thermal Effluent Requirements.

[4] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.

[5] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[6] The following wastewater treatment systems may be added to reduce the $CBOD_5$ on a continuous year-round basis:

(i) Internal Outfall 604 -Chlorination (sodium hypochlorite) treatment.

(ii) Internal Outfall 605 - Chlorination (sodium hypochlorite) treatment.

(iii) Outfall 034 - Sodium Bisulfite addition (de-chlorination).

[7] Continuous chlorination at the above outfalls is permitted on a year-round basis. The wastewater shall be de-chlorinated prior to discharge from Outfall 034. Monitoring for TRC shall be daily during zebra mussel intake chlorination, and 2X weekly during continuous chlorination treatment when the intake is not being treated for zebra mussels. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[8] The permittee shall measure and report the identified metals as total recoverable metals.

[9] Compliance with the daily maximum mass value will be demonstrated if the calculated mass values are less than 14.3 lbs/day.

[10] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitation for Benzo(a)anthracene and Copper. Interim limitations shall apply until the final limits take effect.

[11] See Part R. for Mercury Monitoring Requirements.

[12] The permittee has up to a five (5) year schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[13] The pH shall not be less than 6.0 nor greater than 9.0 s.u. The pH shall be monitored as follows: 2 X weekly, by grab sample, except during periods where the monitoring of pH at Internal Outfall 606 indicate excursions outside the range of 6.0-9.0 s.u. In such circumstances, the pH at Outfall 034 shall be monitored 1 X Daily, by grab sample.

[14] The following water treatment additives in use at Outfall 034 have been reviewed and are approved for use by the Commissioner: Continunm AEC3108, Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 034, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[15] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

20. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated process wastewaters from cold rolling, acid pickling, alkaline cleaning, hot coating, electroplating and hot strip mill oil cellars through Internal Outfall 604 to the Grand Calumet River via Outfall 034. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][2]
Outfall 604

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Total Suspended Solids	3,353	7,474	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	Report	Report	lbs/day	Report	Report	mg/l	5 X Weekly	2 Grabs/24-Hrs.
Total Recoverable Chromium[3]	48.5	78.5	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [4]	34.98	74.68	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
T. Cyanide[8]	18.4	34.0	lbs/day	Report	Report	mg/l	1 X Quarter[7]	24-Hr. Comp.
Cadmium[4]	7.4	19.6	lbs/day	Report	Report	mg/l	1 X Quarter[7]	24-Hr. Comp.
Hexavalent Chromium[9]	0.16	0.46	lbs/day	Report	Report	mg/l	1 X Quarter[7]	24-Hr. Comp.
Nickel[4]	67.5	112.9	lbs/day	Report	Report	mg/l	1 X Quarter[7]	24-Hr. Comp.
Silver[4]	6.8	12.2	lbs/day	Report	Report	mg/l	1 X Quarter[7]	24-Hr. Comp.
TTO[6]	------	60.4	lbs/day	------	------	------	1 X Month	24-Hr. Comp.
Naphthalene[5]	------	1.7	lbs/day	------	Report	mg/l	2 X Weekly	24-Hr. Comp.
Tetrachloro-ethylene[5]	------	2.5	lbs/day	-----	Report	mg/l	2 X Weekly	2 Grabs/24-Hrs.
Phenols(4AAP)	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Chlorides	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.

[1] Bypasses of process wastewaters from the above sources around the Terminal Treatment Plant are permitted only in accordance with Section B.2., Part II of this permit. The permittee shall not use cyanide plating solutions in any metal finishing operations, unless expressly authorized by a modification of this permit.

[2] Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfall 034.

[3] Chromium is to be analyzed by a test method which will measure the total quantity.

[4] The permittee shall measure and report the identified metals as total recoverable metals.

[5] Compliance with the effluent limitations for Naphthalene and Tetrachloroethylene shall be demonstrated if the measured effluent concentrations are less than values stated below:

Naphthalene	0.015 mg/l
Tetrachloroethylene	0.010 mg/l

[6] The limitation for TTO (Total Toxic Organics) applies to the summation of all quantifiable values greater than 0.01 mg/l for all toxic organics listed under 40 CFR 433.11(e) which are reasonably expected to be present. This is a federal effluent guideline based limitation and is not an authorization to discharge toxic organic compounds at levels which cause or may cause water quality violations. The discharge of organic compounds at levels which cause or may cause water quality violations is prohibited. The intent of this limitation is to assure that any solvents or other products in use at the plant, which contain any of the listed toxic organic compounds, are disposed of properly, and not dumped, spilled, discharged or leaked.

Certification Statement

In lieu of monthly monitoring for TTO, the party responsible for signing the monthly discharge monitoring report (DMR) forms may make the following statement, as part of the DMR: "Based on my inquiry of the persons directly responsible for managing compliance with the permit limitations for TTO, I certify that, to the best of my knowledge and belief, no disposal of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the Toxic Organic Pollutant Management Plan submitted to the Compliance Evaluation Section of the Office of Water Quality, as required by this permit." The Certification Statement may not be used until completion of the Toxic Organic Pollutant Management Plan required by Part I.N. of this permit.

If the above mentioned responsible party is unable to make the above Certification Statement because of discharge or spills of any TTO compounds, the Permittee is required to notify IDEM in accordance with Part II.C.4. of this permit.

Initial GC-MS Scan for TTO's

The Certification Statement does not eliminate the requirement for a complete initial GC/MS (Gas Chromatograph/Mass Spectrophotometer) scan as part of the permit application or Toxic

Organic Pollutant Management Plan. Because the results of a GC/MS scan were not included with the permit application, the Permittee must perform at least one scan to characterize its pollutants and wastewaters according to the description below.

At least two grab samples for volatile pollutants and either and 8-hour or 24-hour composite sample for acid and base/neutral pollutants shall be obtained. Wastewater samples shall be prepared and analyzed by GC/MS in accordance with U.S. EPA Analytical Methods 624 and 625 (40 CFR 136), or subsequently approved methods.

In addition to the quantitative analysis for the priority pollutants, a diligent attempt shall be made to identify and quantify any additional substances indicated to be present in the extracts by peaks on the reconstructed gas chromatograms (total ion plots) more than 10 times higher than the peak-to-peak background noise. Identification shall be by reference to the EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be an order of magnitude estimate based upon comparison with an internal standard.

[7] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

[8] Cyanide shall be measured and reported as Total Cyanide. See part I.Q. for additional requirements.

[9] Hexavalent Chromium shall be measured and reported as <u>dissolved</u> metal. The Hexavalent Chromium sample type shall be by grab method. The maximum holding time for a Hexavalent Chromium sample is 24 hours (40 CFR 136.3 Table IB). Therefore, the grab sample must be analyzed within 24 hours.

21. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated process wastewaters from the 84" Hot Strip Mill through Internal Outfall 605 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to mixing with other process and non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1]
Outfall 605

Parameter	Quantity or Loading Monthly Average	Daily Maximum	Units	Quality or Concentration Monthly Average	Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Total Suspended Solids	725	2,175	lbs/day	Report	Report	mg/l	2X Weekly	24-Hr. Comp.
Oil & Grease	---	1,450	lbs/day	---	Report	mg/l	5X Weekly	2 Grabs/24-Hrs.

[1] The permittee may discharge process wastewater from the 84" Hot Strip Mill only through Outfall 605, and oil cellar discharges through Outfall 604 (Terminal Treatment Plant). Noncontact cooling water from the 84" Hot Strip Mill shall only be discharged through Outfall 039.

22. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from steel finishing operations; miscellaneous nonprocess wastewater; storm water runoff; and ferrous chloride recycling discharge through Internal Outfall 606 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to mixing with other process or noncontact cooling waters. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][3]
Outfall 606

Parameter	Quantity or Loading Monthly Average	Daily Maximum	Units	Quality or Concentration Monthly Average	Daily Maximum	Units	Monitoring Requirements[2] Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	24-Hr. Total
Oil & Grease	---	---	---	---	Report	mg/l	5 X Weekly	Grab
Total Chromium	---	---	---	---	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Zinc	---	---	---	---	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Lead	---	---	---	---	Report	mg/l	2 X Weekly	24-Hr. Comp.
Phenols (4AAP)	---	---	---	---	Report	mg/l	1 X Weekly	24-Hr. Comp.
pH [4]		Between 6.0 and 9.0 s.u.					Continuous	

[1] The permittee may discharge nonprocess wastewaters associated with steel finishing operations via the 84" X 91" sewer to the final oil skimming basin at Outfall 034 for treatment prior to discharge through Outfall 034.

[2] The permittee shall monitor Outfall 606 for oil and grease, total chromium, total lead, total zinc and phenols (4AAP) on the same days that monitoring for Outfalls 034, 604 and 605 is conducted.

[3] Corrective action will be initiated after an investigation of any reported discharges of process wastewaters discharging from Outfall 606 are noted. Outfall 606 shall be subject to the visible oil corrective action and monitoring program set out at Part I.O. of this permit.

[4] The total time during which the pH values are outside the required 6.0 - 9.0 range shall not exceed 7 hours and 26 minutes in any calendar month, and no individual excursion from the range of pH values shall exceed 60 minutes.

23. During the period beginning on the effective date of this permit, the permittee is authorized to discharge No. 13 blast furnace non-contact cooling water, No. 5 electric power station non-contact cooling water and surface water runoff through Outfall 035 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][5][6][7][10]
Outfall 035

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Temperature[3]	---	---	--	---	---	^{0}F	Daily	Continuous
Thermal Discharge[3][4]					Report	^{0}F	Daily	Continuous
Total Residual Chlorine [8][9]	11.8	26.48	lbs/day	8	18	ug/l	Daily [10]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Weekly	Grab

[1] The permittee may discharge non-contact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019 and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] See Part III.A.2. of the permit for the additional Thermal Effluent Requirements.

[4] The effluent limitation is 1.211 billion BTU/hour as a maximum daily average. Monitoring shall include flow and intake and outlet temperatures as measured across the condensers on the continuous basis. The daily average BTU's/hour shall be calculated as follows: The BTU's/hour shall be determined once each hour and those values shall be averaged over a 24 hour period for each day.

[5] The permittee shall continuously monitor intake temperature at the No. 2 Pump Station.

[6] There shall be no discharge of blast furnace or sinter plant process wastewaters or process wastewater residuals through Outfall 035.

[7] This permit prohibits the permittee from undertaking any deliberate action that would result in degradation of water quality in the receiving waterbody. The permittee shall notify the Commissioner if there is any increase in the loading of a bioaccumulative chemical of concern (BCC), above normal variability, attributable to a deliberate action unless the increased discharge of the BCC qualifies under one of the exceptions under 327 IAC 5-2-11.7(b) or (c).

[8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 88.3 lbs/day.

[9] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[10] The following water treatment additives in use at Outfall 035 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 035, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

24. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from the plate mill and storm water runoff through Outfall 036 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][2][7][8]
Outfall 036

Parameter	Quantity or Loading Monthly Average	Daily Maximum	Units	Quality or Concentration Monthly Average	Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Sample Type
Flow	---	Report	MGD	---	---	---	Daily	Continuous
Temperature[6]								
Interim	—	—	—	—	Report	°F	1 X Weekly	Grab
Final	---	---	---	---	Report	°F	Daily	Continuous
Oil & Grease[3]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Total Residual Chlorine [4]	1.8	4.1	lbs/day	8	1 8	ug/l	Daily [5]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewater through Outfall 036.

[2] Overflows of process wastewaters from the 84" X 91" sewer (monitoring station 606) to Outfall 036 are prohibited.

[3] Additional monitoring and reporting requirements are contained in Part I.O**.,** Visible Oil Corrective Action Monitoring Program.

[4] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 13.5 lbs/day.

[5] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[6] See Part III.A.2. for temperature requirements.

[7] The following water treatment additives in use at Outfall 036 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 036, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[8] This permit prohibits the permittee from undertaking any deliberate action that would result in

degradation of water quality in the receiving waterbody. The permittee shall notify the Commissioner if there is any increase in the loading of a bioaccumulative chemical of concern (BCC), above normal variability, attributable to a deliberate action unless the increased discharge of the BCC qualifies under one of the exceptions under 327 IAC 5-2-11.7(b) or (c).

25. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from the 5-Stand Cold Reduction Mill, North Sheet Mill Annealing, the Nos. 6 and 8 Galvanized lines and storm water runoff through Outfall 037 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][6][8]
Outfall 037

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	---	---	---	Daily	Continuous
Temperature [7]								
Interim	—	—	—	—	Report	°F	1 X Weekly	Grab
Final	---	---	---	---	Report	°F	Daily	Continuous
Oil & Grease[2]	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Zinc [3]	---	Report	lbs/day	---	Report	mg/l	1 X Weekly	24-Hr. Comp
Phenols (4AAP)	---	Report	lbs/day	---	Report	mg/l	1 X Weekly	24-Hr. Comp
Total Residual Chlorine [4]	0.2	0.45	lbs/day	8	18	ug/l	Daily [5]	Grab
				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewater through Outfall 037.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] The permittee shall measure and report the identified metals as total recoverable metals.

[4] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 1.5 lbs/day.

[5] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra

Mussel Control and Chlorination for additional requirements.

[6] The following water treatment additives in use at Outfall 037 have been reviewed and are approved for use by the Commissioner: Depositrol BL5303, POT6100, Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 037, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[7] See Part III.A.2. of the permit for Thermal effluent requirements.

[8] This permit prohibits the permittee from undertaking any deliberate action that would result in degradation of water quality in the receiving waterbody. The permittee shall notify the Commissioner if there is any increase in the loading of a bioaccumulative chemical of concern (BCC), above normal variability, attributable to a deliberate action unless the increased discharge of the BCC qualifies under one of the exceptions under 327 IAC 5-2-11.7(b) or (c).

26. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from 84" Hot Strip Mill, storm water runoff and emergency overflows from 84" Hot Strip Mill roughing mill scale pit and noncontact cooling water from a cooling tower through Outfall 039 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][6]
Outfall 039

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	---	Report	MGD	---	---	---	Daily	Continuous
Temperature [5]								
Interim	—	—	—	—	Report	°F	1 X Weekly	Grab
Final	---	---	---	---	Report	°F	Daily	Continuous
Oil & Grease	---	---	---	---	Report	mg/l	1 X Weekly	Grab
Total Residual								

Chlorine [2]	3.7	8.3	lbs/day	8	18	ug/l	Daily [3]	Grab

				Minimum Daily	Maximum Daily			
pH	----	------		6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewater through Outfall 039, except as provided for by Part II.B.1., 2. and 3.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 27.5 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[4] The following water treatment additives in use at Outfall 039 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 039, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[5] See Part III.A.2. of the permit for thermal effluent requirements.

[6] This permit prohibits the permittee from undertaking any deliberate action that would result in degradation of water quality in the receiving waterbody. The permittee shall notify the Commissioner if there is any increase in the loading of a bioaccumulative chemical of concern (BCC), above normal variability, attributable to a deliberate action unless the increased discharge of the BCC qualifies under one of the exceptions under 327 IAC 5-2-11.7(b) or (c).

27. During the period beginning on the effective date of this permit, the permittee is authorized to discharge noncontact cooling water from the No. 1 Electro-Galvanizing Line, storm water runoff, water intake filter backwash and boiler blowdown through Outfall 040 to Stockton Pond. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][4]
Outfall 040

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow	---	Report	MGD	---	---	---	1 X Monthly	Estimate
Temperature	---	---	---	---	Report	°F	1 X Week	Grab
Oil & Grease	---	---	---	---	Report	mg/l	1 X Monthly	Grab
Zinc [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.12	0.3	lbs/day	0.073	0.170	mg/l	10 X Monthly*	24-Hr. Comp
Copper [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.015	0.035	lbs/day	0.009	0.021	mg/l	10 X Monthly*	24-Hr. Comp.
Lead [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.01	0.03	lbs/day	0.008	0.018	mg/l	10 X Monthly*	24-Hr. Comp.
Nickel [2]								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.08	0.2	lbs/day	0.05	0.12	mg/l	10 X Monthly*	24-Hr. Comp.
Chromium III								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.14	0.33	lbs/day	0.085	0.2	mg/l	10 X Monthly*	24-Hr. Comp.
Ammonia [5]								
Summer								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.6	1.4	lbs/day	0.35	0.81	mg/l	10 X Monthly*	24-Hr. Comp.
Winter								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	0.25	0.6	lbs/day	0.15	0.35	mg/l	10 X Monthly*	24-Hr. Comp.
Chloride								
Interim	Report	Report	lbs/day	Report	Report	mg/l	10 X Monthly*	24-Hr. Comp.
Final [3]	267	621	lbs/day	160	372	mg/l	10 X Monthly*	24-Hr. Comp.
Total Residual Chlorine [6]	0.01	0.03	lbs/day	8	18	ug/l	Daily [7]	Grab

Parameter	Minimum Daily	Maximum Daily	Units	Measurement Frequency	Sample Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

* Monitoring shall be conducted at equally spaced daily intervals throughout the month.

[1] There shall be no discharge of process wastewaters from steel finishing or metal finishing operations through Outfall 040.

[2] The permittee shall measure and report the identified metals as <u>total recoverable metals</u>.

[3] The permittee has up to a three (3) year schedule of compliance as outlined in Part I.D. of the permit in which to meet the final effluent limitations. Interim limitations shall apply until the final

limits take effect.

[4] The following water treatment additives in use at Outfall 040 have been reviewed and are approved for use by the Commissioner: Sodium Hypochlorite and Spectrus DT1404. In the event that changes are to be made in the use of water treatment additives including dosage rates, contributing to Outfall 040, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1. of this permit. The use of any new or changed water treatment additives must receive prior approval from IDEM in accordance with Part II.A.5, A.8 and C.10 of this permit. Acute and chronic aquatic toxicity information must be provided.

[5] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 through June 30.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.1 lbs/day. See Part I.P. for Zebra Mussel Control and Chlorination for additional requirements.

[7] Monitoring for TRC shall be 1 X Daily during zebra mussel intake chlorination, and continue for three additional days after zebra mussel treatment has completed.

28. During the period beginning on the effective date of this permit, the permittee is authorized to discharge water intake screen backwash through Outfalls BW-1, BW-2, BW-3, BW-4, and BW-5 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations[1][2]

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	---	Report	MGD	---	---	---	Quarterly [3]	Estimate

[1] Discharge of water intake screen backwash is authorized from the following Lake Michigan water intakes:

BW-1 - No. 1 service water pumping station.
BW-2 - No. 2 service water pumping station.
BW-3 - No. 3 service water pumping station.
BW-4 - No. 4 service water pumping station.
BW-5 - Lakeside service water pumping station.

[2] There shall be no discharge of process wastewaters from Outfalls BW-1, BW-2, BW-3, BW-4, BW-5.

[3] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

B. MINIMUM NARRATIVE LIMITATIONS

1. The discharge from any and all point sources specified within this permit shall not cause receiving waters, including the mixing zone, to contain substances (e.g., foam), materials, floating debris, oil, scum or other pollutants:

a. That will settle to form putrescent or otherwise objectionable deposits;

b. That are in amounts sufficient to be unsightly or deleterious;

c. That produce color, visible oil sheen, odor, or other conditions in such a degree as to create a nuisance;

d. Which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants or humans;

e. Which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance, be unsightly, or otherwise impair the designated use.

2. At all times, all waters outside of the mixing zone shall be free of substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge.

2. Discharge Monitoring Reports

a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0).

b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.

c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 ug/l, report the value as <0.1 ug/l.

d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.

e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.

f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month which shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

3. Definitions

a. Monthly Average

(1) Mass Basis - The "monthly average" discharge means the total mass discharge during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily sampling is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily mass discharges divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "monthly average" concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Discharge"

(1) Mass Basis - The "daily discharge" means the total mass discharge by weight during any calendar day.

(2) Concentration Basis - The "daily discharge" means the average concentration over the calendar day or any twenty-four (24) hour period that reasonably represents the calendar day for the purposes of sampling.

c. "Daily Maximum"

(1) Mass Basis - The "daily maximum" means the maximum daily discharge mass value for any calendar day.

(2) Concentration Basis - The "daily maximum" means the maximum daily discharge value for any calendar day.

(3) Temperature Basis - The "daily maximum" means the highest temperature value measured for any calendar day.

d. A 24-hour composite sample consists of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow proportioned composite sample may be obtained by:

(1) recording the discharge flow rate at the time each individual sample is taken,

(2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the "total flow" value,

(3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,

(4) then multiply the volume of the total composite sample by each individual samples percentage to determine the volume of that individual sample which will be included in the total composite sample.

e. Concentration--The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

f. The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

g. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015.

h. “Limit of Detection or LOD” means a measurement of the concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.

i. “Limit of Quantitation or LOQ” means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration about the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the

contaminant. This term is also called the limit of quantification or quantification level.

j. "Method Detection Level or MDL" means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by the procedure set forth in 40 CFR Part 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

4. Test Procedures

The analytical and sampling methods used shall conform to 40 CFR, Part 136. The approved methods may be included in the texts listed below. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. It should also be noted that different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater
18th Edition, 1992; 19th Edition, 1995; or the 20th Edition, 1998; American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis
1972 American Society for Testing and Materials,
Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes
June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory,
1014 Broadway, Cincinnati, OH 45202.

d. The following analytical methods and limits of detection and limits of quantitation shall be used:

Parameter	Method[1]	Concentration (in µg/l)	
		LOD	LOQ (or ML)
Aluminum	202.2	3	10
Ammonia	350.1	10	32.0
	350.2 (colorimetric)	50	160
	350.2 (electrode)	30	95
	350.3	30	95
Benzene	602	0.2	0.64
	624	4.4	14
	1624	3.1	10
Benzo-a-pyrene	610[4]	0.023	0.073
	610-GC/MS [4]	1.25 [5]	3.98
Parameter	Method[1]	Concentration (in µg/l)	
		LOD	LOQ (or ML)
Benzo-a-anthracene	610	0.013	0.041
Chloride	325.1	1000	3200
	325.2	1000	3200
Copper	220.2	1	3.2
Cyanide, Total	335.3 4500-CN-B, C, E[3] (colorimetric)	1	3.2
Cyanide, Free	1677	0.6	2.0
Fluoride	340.1	100	320
	340.2	100	320
	340.3	50	160
Iron	236.2	1	3.2
	200.7	7	22
Lead	239.2	1	3.2
Mercury	1631, Rev. D	0.0002	0.0005
Naphthalene	610 (HPLC)	1.8	5.8
	625	1.6	5.1
	1625	3.1	10
Phenols	420.1	5	16

	420.2	2	6.4
	420.3	2	6.4
Selenium	270.2	1[3]	3.5[3]
	270.3	2	6.4
Strontium	200.7	0.3	0.95
Sulfate	375.1	3000	9500
	375.4	1000	3200
Tetrachloroethylene	601	0.03	0.095
Total Suspended Solids (TSS)	160.2	1258	4000
Vanadium	200.7	3.0	9.5
Zinc	289.1	5	16
	289.2	0.1	0.3
	200.7	2	6.4
Zirconium	1620		

[1] Unless otherwise specified, the methods listed are the EPA Methods referenced in 40 CFR 136.

[2] American Public Health Association. 1992. Standard Methods for the Examination of Water and Wastewater. 18th Edition. Publ. Hlth. Assoc., 1015 15th Street NW, Washington, DC 20005.

[3] LOD/LOQ established by site-specific study 07/18/2000.

[4] Method 610-GC/MS shall be used at outfall 501 until such time as Method 610-HPLC can be consistently used without interferences at the LOD listed in the Table above. The permittee shall provide updates on the use of Method 610-HPLC by January 1 of each calendar year. These updates should also include status of the development of a lower MDL for Test Method 610-GC/MS. Ultimately, the test method used should be the one that provides the most reliable results at the lowest MDL possible.

[5] MDL and resulting LOQ apply to Outfall 501.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The person(s) who performed the sampling or measurements;

c. The dates the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses and measurements.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in the permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three-years shall be extended:

(1) automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

(2) as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for the parameters on each Outfall as specified from the Table A below:

Table A

Outfall	Parameter
005	Benzo(a)anthracene
018	Copper
028/030	Fluoride
034	Benzo(a)anthracene
040	Zinc, Copper, Chromium III, Lead, Nickel, Ammonia, and Chloride

2. The permittee shall achieve compliance with the final effluent limitations for each parameter in Table A above, in accordance with the following schedule:

   a. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality nine (9) months from the effective date of the permit. The progress report shall include, among other items, a description of the method(s) selected for meeting new final effluent limitations. The new effluent limits for the parameters listed above are deferred for the term of this compliance schedule, or until completion of the necessary construction, unless notification is received in accordance with paragraph c. below. Monitoring and reporting is required during the interim period in accordance with the discharge limitations for each of the above outfalls as listed in Part I.A. of the permit.

   b. If the permittee determines that a site-specific or case-specific study of any kind is going to be conducted during the time frame of this compliance schedule then the permittee shall notify the Compliance Evaluation Section and the Industrial NPDES Permits Section, Office of Water Quality within ninety (90) days of anticipating that a study will be conducted. A site-specific or case-specific study of any kind will not be accepted for review without a study work plan submitted to and approved by IDEM prior to the initiation of the study. It is the permittees responsibility to submit and get the necessary work plan approvals so that the study can be conducted and reviewed during the time frames of the compliance schedule. Any study submitted without an approved work plan prior to the initiation of the study will be automatically returned without any review or comment. Questions about an approvable work plan and any site-specific studies shall be submitted to Dr. Syed Ghiasuddin, Toxicology and Chemistry Section, OWQ.

   c. If construction is required to meet the new effluent limits, initiation of construction shall commence no later than eighteen (18) months from the effective date of this permit.

   d. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ on the aforementioned construction no later than twenty seven (27) months from the effective date of this permit.

e. Construction shall be completed within thirty-five (35) months from the effective date of this permit. The permittee shall submit a written progress report to the Compliance Evaluation Section of OWQ when construction has been completed.

f. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

g. The permittee shall comply with all final effluent requirements no later than thirty-six (36) months from the effective date of the permit.

h. If the permittee submits a site-specific work plan to be reviewed, twelve (12) months may be added to all of the dates in c-g. If a work plan is approved and a site-specific study is to be conducted than an additional twelve (12) months will be added. A compliance schedule cannot exceed sixty (60) months total.

3. If the permittee fails to comply with any date in the foregoing schedule by more than fourteen (14) days, the permittee shall submit a written notice of noncompliance to the Compliance Evaluation Section, Office of Water Quality delineating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final requirements.

E. SCHEDULE OF COMPLIANCE - Mercury

1. Mercury

a. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality (OWQ) nine (9) months from the effective date of the permit. The progress report shall include, among other items, a description of the method(s) selected for meeting new final limitations for mercury at the following Outfalls: 005, 010, 400, 018, 019, 020, 028/030, and 034. The new effluent limitations for mercury are deferred for the term of this compliance schedule, or until completion of the necessary construction, unless notification is received in accordance with paragraph b. below. Monitoring and reporting of effluent mercury is required during the interim period at each of the outfalls listed above in accordance with Part I.A. of the permit.

b. If the permittee determines that a site-specific or case-specific study of any kind is going to be conducted during the time frame of this compliance schedule then the permittee shall

notify the Compliance Evaluation Section and the Industrial NPDES Permit Section, Office of Water Quality. A site-specific or case-specific study of any kind will not be accepted for review without a study work plan submitted to and approved by IDEM prior to the initiation of the study. It is the permittees responsibility to submit and get the necessary work plan approvals so that the study can be conducted and reviewed during the time frames of the compliance schedule. Any study submitted without an approved work plan prior to the initiation of the study will be automatically returned without any review or comment. Questions about an approvable work plan should be directed to Dr. Syed Ghiasuddin, Toxicology and Chemistry Section, OWQ.

c. If construction is not required to meet the final limits for mercury within the sixty month period, the permittee shall notify the Compliance Evaluation Section, Office of Water Quality (OWQ). Upon receipt of such notification by the OWQ, the final limitations for mercury will become effective.

d. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality (OWQ) eighteen (18) months from the effective date of the permit.

e. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality (OWQ) twenty-seven (27) months from the effective date of the permit.

f. Initiation of construction, if necessary, shall commence not later than the thirty-six (36) months from the effective date of the permit. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality at this time.

g. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality forty-eight (48) months from the effective date of the permit.

h. Construction shall be completed within fifty-nine (59) months from the effective date of the permit. The permittee shall submit a written progress report to the Compliance Evaluation Section, Office of Water Quality when construction has been completed.

i. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

j. The permittee shall comply with all final requirements no later than sixty (60) months

from the effective date of the permit.

k. **If the permittee fails to comply with any date in the foregoing schedule by more than fourteen (14) days,** the permittee shall submit a written notice of noncompliance to the Compliance Evaluation Section, Office of Water Quality delineating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final requirements.

F. SCHEDULE OF COMPLIANCE - Benzo(a)pyrene

1. The permittee shall achieve compliance with the effluent limitations specified for Benzo(a)pyrene at Outfall 005 and 010 in accordance with the following schedule:

a. The permittee shall submit a written progress report to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the limitation for benzo(a)pyrene, in addition to any other relevant information. The final effluent limits for benzo(a)pyrene are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the final effluent limits for benzo(a)pyrene can be met. Upon receipt of such notification by OWQ, the final limits for benzo(a)pyrene will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of the effluent for these parameters is required during the interim period.

b. If construction is not required to meet the final limits for benzo(a)pyrene within the thirty-six month period, the permittee shall notify the Compliance Evaluation Section, Office of Water Quality (OWQ). Upon receipt of such notification by the OWQ, the final limitations for benzo(a)pyrene will become effective. If a construction permit application is required, a construction permit application (including Plans and Specifications) for complying with final requirements shall be submitted within eighteen (18) months from the effective date of the permit.

c. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ on the aforementioned construction no later than twenty seven (27) months from the effective date of this permit.

d. Construction shall be completed within thirty-five (35) months from the effective date of this permit. The permittee shall submit a written progress report to the Compliance Evaluation Section of OWQ when construction has been completed.

e. Within thirty (30) days of completion of construction, if a construction permit application was not required, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

f. The permittee shall comply with the final effluent limitations for benzo(a)pyrene no later than thirty-six (36) months from the effective date of this permit.

2. If the permittee fails to meet any of the above actions in the foregoing schedule by more than fourteen (14) days, the permittee shall submit a written notice of noncompliance to the Compliance Evaluation Section of OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the remaining terms of the schedule.

G. POLLUTION MINIMIZATION PROGRAM

This permit contains water quality-based effluent limits for certain parameters which are less than the listed LOQ value, the permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ. For this permit, this includes total residual chlorine and Benzo-a-anthracene. A PMP has already been conducted for chlorine at Outfall 034, a new PMP at Outfall 034 will not be required for chlorine. A pollution minimization program is required for Benzo-a-anthracene at Outfalls 005, 010, and 034. A pollutant minimization program is currently being implemented for benzo(a)pyrene at Outfalls 005 and 010, this should continue. A pollutant minimization program is required for Selenium at Outfall 005. This was discontinued when US Steel received a case-specific LOD for EPA Test Method 270.2. A re-evaluation of the case-specific LOD for Test Method 270.2 shall be conducted within 90 days of the effective date of this permit. The permittee should submit documentation to support the continuation of the case-specific LOD for Test Method 270.2. If it is determined that the case-specific LOD is invalid then the PMP shall be re-implemented for Selenium at Outfall 005.

1. The goal of the pollutant minimization program shall be to maintain the effluent at or below the WQBEL. The pollutant minimization program shall include, but is not limited to, the following:

a. Submit a control strategy designed to proceed toward the goal within 180 days of the effective date of this permit.

b. Implement appropriate cost-effective control measures, consistent with the control strategy within 365 days of the effective date of this permit.

c. Monitor as necessary to record the progress toward the goal but no less than on a quarterly basis. Monitoring of the influent of the wastewater treatment system is also required. The permittee may request a reduction in this monitoring requirement after four quarters of

monitoring data.

d. Submit an annual status report to the commissioner at the address listed in Part I.C.3.g. to the attention of the Office of Water Quality, Compliance Section, by January 31 of each year that includes the following information:

(1) All minimization program monitoring results for the previous year.

(2) A list of potential sources of the pollutant.

(3) A summary of all actions taken to reduce or eliminate the identified sources of the pollutant.

e. A pollution minimization program may include the submittal of pollution prevention strategies that use changes in production process technology, materials, processes, operations, or procedures to reduce or eliminate the source of the pollutant.

2. No pollution minimization program is required if the permittee demonstrates that the discharge of a pollutant with a WQBEL below the LOQ is reasonably expected to be in compliance with the WQBEL at the point of discharge into the receiving water. This demonstration may include, but is not limited to, the following:
   a. Treatment information, including information derived from modeling the destruction of removal of the pollutant in the treatment process.

   b. Mass balance information.

   c. Fish tissue studies or other biological studies.

3. In determining appropriate cost-effective control measures to be implemented in a pollution minimization program, the following factors may be considered:

   a. Significance of sources.

   b. Economic and technical feasibility.

   c. Treatability.

H. REOPENING CLAUSES

This permit may be modified, or, alternately, revoked and reissued, after public notice and opportunity for hearing:

1. To comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

   a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   b. controls any pollutant not limited in the permit.

2. To incorporate any of the reopening clause provisions cited at 327 IAC 5-2-16.

3. To include limitations for specific toxicants if the results of the biomonitoring and/or the TRE study indicate that such limitations are necessary to meet Indiana Water Quality Standards.

4. After reviewing the instream continuous monitoring data, the IDEM and/or US EPA reserves the right to reopen the permit and, after public notice and opportunity for hearing, to establish more appropriate temperature limits.

5. To include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical method approved by EPA under 40 CFR Part 136, or approved by the Commissioner.

6. After reviewing the monitoring data submitted as part of Part I.J. Storm Water Discharges, the IDEM and/or the US EPA reserves the right to reopen the permit and require biomonitoring, after public notice and opportunity for hearing, at any or all of the discharge points contained in the permit.

H. REOPENER CLAUSE (continued)

7. After reviewing the temperature monitoring as required by Part I. 19. the IDEM and/or US EPA reserves the right to reopen the permit and, after public notice and opportunity for hearing to establish more restrictive temperature limits.

8. After further investigation of the type, quantity, volume and discharge location of low volume waste and chemical metal cleaning waste materials as identified in 40 CFR 423, the IDEM and /or US EPA reserves the right to reopen the permit, after public notice and opportunity for hearing to establish appropriate effluent limitations.

9. This permit may be modified or revoked and reissued to revise (such as more or less frequent monitoring) or remove the requirements of the pollutant minimization program (Part I.G.) if

supported by information generated as a result of this program.

10. This permit may be modified, or, alternately, revoked and reissued, after public notice and opportunity for hearing upon the final adoption of US EPA regulations pertaining to cooling water intake structures for existing facilities, Section 316(b) of the Clean Water Act.

11 This permit may be modified, or, alternately, revoked and reissued, after public notice and opportunity for hearing to include revised limitations for selenium, if US Steel submits an appropriate metal translator study that is approved by IDEM and the study indicates that a change in the metal translator is warranted.

12. This permit may be modified, or, alternately, revoked and reissued, after public notice and opportunity for hearing to include 316(a) requirements upon finalization of 316(a) protocols by IDEM.

13. This permit may be modified or, alternately, revoked and reissued after public notice and opportunity for hearing to incorporate effluent limitations reflecting the results of a TMDL or a revised wasteload allocation if the Department of Environmental Management determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.

14. This permit may be modified, or, alternately, revoked and reissued, after public notice and opportunity for hearing to incorporate the variance limits/requirements for Mercury once a state wide Mercury variance has been incorporated into the rules.

I. SANITARY LIFT STATION EMERGENCY OVERFLOWS

1. Sanitary sewer system lift station overflow points are expressly prohibited from discharging at any time. Should any discharge occur, the permittee shall notify the Water Enforcement Section within 24 hours and in writing within five days of the event. Such discharge events are considered to be permit violations (See Part II.B.2.c.of the permit). The correspondence shall include a description of the deviation and cause of discharge as well as the remedial action taken to eliminate it. Duration and estimated flow shall also be reported on the Discharge Monitoring Report.
   The above stipulations apply to the following sanitary lift stations:

List Station	Discharge Point
SOF-6	Outfall 018

SOF-11	Outfall 023
SOF-3	Outfall 032
SOF-51	Outfall 033
SOF-1	Direct to Grand Calumet River
SOF-2	Grand Calumet River via GW-11 Pumping Station
SOF-4	Grand Calumet River via GW-10 Pumping Station
SOF-5	Direct to Lake Michigan
SOF-17	Grand Calumet River via GW-10 Pumping Station

J. STORM WATER MONITORING

1. Beginning on the effective date the permittee shall conduct annual storm water monitoring for the storm water discharge points set out in Paragraph 3, of this section.

2. Storm water monitoring shall be conducted in accordance with the storm water sampling and analytical protocols set out at 55FR48083 (November 16, 1990), Item VII-A, B and C, General Instructions, (A - Sampling; B - Reporting; C - Analysis). Storm water samples shall be analyzed for the pollutants listed by outfall in the permittee's storm water permit application dated March 1999 and limited in this permit. The analytical results shall be sent to IDEM and U.S. EPA.

3. Storm Water Monitoring Points

Outfall 004	DA #4	Inactive Overflow Point Only
SS-1	DA #8	Tennessee Street (GCR)
SW-04	DA #10	Material Storage Areas (GCR)
SW-01	DA #11	East Side of Slip (LM)
SW-02	DA #11	West Side of Slip (LM)
SW-08	DA #32	Virginia Tunnel Drain
SW-10		Tennessee Drain (GCR)
SW-11		Broadway Tunnel Drain (GCR)
Outfall 017	DA #12	Blast Furnace Area (GCR)
SW-06	DA #29	Railroad Lines (LM)
SW-07	DA #30	Slag Handling Area (LM) - Inactive
SW-03	DA #31	Plant Route 18 (GCR)
EJ&E (SW-12)	DA #22	Outfall 034 Channel (GCR)
Outfall 134	DA #1,#2,#3	Coal Handling Yard (Mason Basin #5)
Outfall 032	DA #20	Bar Mill and Billet Storage Areas (GCR)
Outfall 033	DA #21	Tin Plate Areas, Atmospheric Gas Plant, Sheet Mill (GCR)
Outfall 040	DA #28	Electrogalvanizing Area (Stockton Pond)

DA - Drainage Area
GCR - Grand Calumet River
LM - Lake Michigan

The monitoring requirements for all points listed above are:

Oil & Grease, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen, Nitrite Plus Nitrate Nitrogen, Total Phosphorus, E.coli. bacteria, and pH.

Additional monitoring requirements for specific outfalls are:

Outfall 004 and SS1 - Ammonia (as N) and Total Cyanide.
Monitoring Points SW-01, 02, 08, 10, 11, and EJ&E - Ammonia (as N), lead, copper, and zinc.

In the event storm water runoff is not discharged from the same locations monitored for the storm water permit application (Form 2-F) dated March 1999, the permittee shall monitor storm water runoff from a point or points representative of the discrete storm water drainage areas illustrated in the application.

4. US Steel implemented their original SWPPP in 1996 and revised in April 1997. US Steel has also implemented a separate SWPPP for the Coke Plant and is consistent with the Gary Works SWPPP. The Coke Plant SWPPP was revised in April 1997 and September 1999. US Steel as part of their overall SWPPP development took into account the General Permit for Storm Water Discharges Associated with Industrial Activity from Primary Metals Facilities. This EPA general permit applies to states in which EPA administers the NPDES Permit Program. The SWPPP requirement IDEM placed in the permit governs the requirements in the SWPPP for Gary Works, but the requirements of the general EPA Permit were taken into account in developing the overall SWPPP. US Steel has also implemented the BMP requirement for the Coal processing area that was a condition from the last permit. The Coal processing area BMP was enacted in December 1994 and subsequently revised in April 1999 and April 2000. US Steel is to maintain the SWPPPs currently implemented at the Gary Works Facility in April 1997 and must revise them at least annually whenever there is a change in design, construction, operation, or maintenance which may impact the potential for pollutants to be discharged to surface waters of the state, or if the plan(s) prove to be ineffective in controlling the discharge of pollutants, or upon written notice by the commissioner.

K. STORM WATER POLLUTION PREVENTION PLAN

US Steel has an existing Storm Water Pollution Prevention Plan (SWPPP), the plan requirements below reflect the minimum requirements in current SWPPPs. The SWPPP that US Steel currently has implemented may already contain these minimum requirements, and if so, then this is for reference only. If a component currently required by IDEM is not in the US Steel SWPPP then US Steel should revise their plan to conform with the minimum requirements below.

1. Development of Plan

Within 12 months from the effective date of the permit, the permittee is required to modify their current Storm Water Pollution Prevention Plan (SWPPP) for the permitted facility to include the following minimum requirements, if necessary. The plan shall:

a. identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant. These include but are not limited to the following;

(1) Loading or unloading of dry bulk materials or liquids.

(2) Outdoor storage of raw materials, intermediary products, final products or waste products.

(3) Outdoor process activities.

(4) Dust or particulate generating processes.

(5) Unauthorized connections or management practices.

(6) Waste disposal practices

(7) Areas upon which pesticides are applied.

b. describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity at the facility; and

c. assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team - The plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

b. Description of Potential Pollutant Sources - The plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)) which may potentially be significant pollutant sources. The plan shall include, at a minimum:

(1) A site map indicating, at a minimum, the following:

(a) Location of each point of discharge of storm water associated with industrial activity and outline of the drainage area (with a prediction of the direction of flow) of each storm water outfall.

(b) Each existing structural control measure used to reduce pollutants in storm water runoff.

(c) Surface water bodies, springs, and wetlands.

(d) Locations where significant materials are exposed to precipitation.

(e) Locations where major spills or leaks identified under Part I.K.2.b.(3) have occurred.

(f) Location of fueling stations; vehicle and equipment maintenance and/or cleaning areas; storage areas for vehicles and equipment with actual or potential fluid leaks; loading/unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; processing areas; storage areas; existing and proposed underground storage tanks; and all monitoring locations.

(g) The site map must also indicate the types of discharges contained in the drainage areas of the outfalls (e.g., storm water and air conditioner condensate).

(h) Each well where fluids from the facility are injected underground.

(2) Inventory of Exposed Materials - An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of the following:

(a) Significant materials, that in the three (3) year period prior to the effective date of the permit, have been treated, stored or disposed in a manner to allow exposure to storm water.

(b) Method and location of onsite storage or disposal of significant materials.

(c) Dirt or gravel parking areas for storage of vehicles to be maintained.

(d) Past and present materials management practices employed to minimize contact of materials with storm water run-off.

(e) The location and description of existing structural and nonstructural control measures to reduce pollutants in storm water run-off.

(f) A description of any treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge.

(3) Spills and Leaks - A list of significant spills and leaks of toxic pollutants or hazardous substances as defined in 327 IAC 5-1.5 that occurred at the facility within the three (3) year period prior to the effective date of the permit. The list shall be updated within ninety (90) days from the date when a significant spill or leak of toxic pollutants or hazardous substances occurs and shall include a description of the materials released, an estimate of the volume of the release, the location of the release and a description of any remediation or clean-up measures taken.

(4) Sampling Data - A summary of existing sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(5) Summary of Potential Pollutants - A narrative description of the potential

pollutant sources from the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes, and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter of concern shall be identified.

(6) A topographic map, or other map if a topographic map is unavailable, extending one-fourth (1/4) of a mile beyond the property boundaries fo the facility, depicting the facility and each of its intake and discharge structures, springs, other surface water bodies and drinking water wells listed in public records or otherwise known to the applicant in the map area. This item may be included in the site map required under item (1) above.

c. Measures and Controls - The facility shall be operated and maintained in such a manner that exposure of storm water to potential sources of significant pollutant materials is minimized. The permittee shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility.

(1) The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) Good Housekeeping - All areas that may contribute pollutants to storm water discharges shall be maintained in a clean, orderly manner.

(b) Preventive Maintenance - A preventative maintenance program shall include timely inspection and maintenance of storm water management devices, as well as, inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) Spill Prevention and Response Procedures - Areas where potential spills could contribute pollutants to storm water discharges, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. The program shall include, at a minimum, procedures for the following:

i Proper spill response and clean-up.

ii Reporting a spill to the appropriate facility personnel and, if appropriate, local/state emergency response personnel.

iii Routine maintenance and inspection of spill response/clean-up materials and equipment.

(d) Inspections - Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a quarterly basis. A set of tracking or follow up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspection shall be maintained.

(e) Employee Training - Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management of the components and goals of the storm water pollution prevention plan. Training, at a minimum, shall:

i Address topics, such as, spill response, good housekeeping, and material management practices.

ii Occur at least once a year.

(f) Recordkeeping and Internal Reporting Procedures - A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the pollution prevention plan. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(g) Sediment and Erosion Control - The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(h) Management of Runoff - The plan shall contain a narrative consideration of the appropriateness of storm water management practices (practices other than those which control the generation or sources(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site.

The plan shall provide for the implementation and maintenance of measures that the permittee determines to be reasonable and appropriate. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity shall be considered when determining reasonable and appropriate measures.

Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

d. Comprehensive Site Compliance Evaluation - Qualified personnel shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

(1) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(2) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.K.2.b. of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.K.2.c. of this permit shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(3) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph shall be made and retained as part of

the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.7. of this permit.

(4) Where compliance evaluation schedules overlap with inspections required under Part I.K.2.c.(1)(d), the compliance evaluation may be conducted in place of one such inspection.

3. General Requirements

General requirements of a SWPPP shall include the following:

a. The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgements regarding storm water control/treatment and monitoring, pollutant fate and transport, and drainage planning.

b. The SWPPP shall be retained on-site and be available for review by a representative of the Commissioner upon request. The plan is not required to be submitted to IDEM for review.

c. The permittee shall amend the plan whenever there is a change in design, construction, operation or maintenance at the facility, which may have a significant effect on the potential for the discharge of pollutants to surface waters of the state, or upon written notice by the Commissioner that the SWPPP proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity.

L. WHOLE EFFLUENT TOXICITY LIMITATIONS

1. During the period beginning three years from the effective date of the permit, the permittee shall comply with the discharge limitations and monitoring requirements for whole effluent toxicity as specified below:

		Quality or Concentration			Monitoring Requirements	
		Monthly	Daily	Measurement	Sample	
Parameter	Outfall	Average	Maximum	Units	Frequency	Type
Chronic Toxicity	005	1.0	1.6	TU_c[1]	Quarterly	24- Hr. Comp.
Chronic Toxicity	034	3.1	5.4	TU_c[1]	Quarterly	24- Hr. Comp

[1] TU_c is defined as 100/NOEL or 100/IC25.

2. Whole Effluent Toxicity Reporting

Within 90 days of the effective date of the permit, US Steel shall initiate the series of bioassay tests described below to monitor the toxicity of the discharge from the following outfalls on a quarterly basis.: 005, 010, 028/030, and 034.

3. Test Procedures

a. Bioassay Test Procedures and Data Analysis

(1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Third Edition Section 13, Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (Pimephales promelas) Larval Survival and Growth Test Method, (1000.0)
EPA 600-4-91-002, July 1994 or most recent update.

(2) Any circumstances not covered by the above methods, or that require deviation from the specified methods shall first be approved by the IDEM's Environmental Toxicology and Chemistry Section.

(3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for acute and chronic toxicity endpoints as outlined in Section 9 of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA-600-4-91-002), Third Edition, July 1994 or most recent update.

b. Types of Bioassay Tests

The permittee shall conduct a 7-day Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test and a 7-day Fathead Minnow (Pimephales promelas)

Larval Survival and Growth Test on samples of the final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.

If, in any control, more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test (control and effluent) shall be repeated. In addition, if in the Ceriodaphnia test the number of newborns produced per female or if 60% of females have less than three broods; and in the fathead minnow test if the mean dry weight in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

(1) Samples taken for the purposes of Whole Effluent Toxicity Testing, will be at a point that is representative of the discharge but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.

(2) Chemical analysis must accompany each effluent sample taken for bioassay test. The analysis detailed under Part I.A. should be conducted for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Reporting

(1) Results shall be reported according to EPA 600/4-91-002, Section 10 (Report Preparation). A copy of the completed report for each test shall be submitted to both the Data Management Toxicology/Chemistry Sections of the IDEM no later than sixty days after completion of the test.

(2) For quality control the report shall include the results of appropriate standard reference toxicant tests for acute and chronic endpoints and historical reference

toxicant data with mean values and appropriate ranges for the respective test species Ceriodaphnia dubia and Pimephales promelas. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.

(3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

e. Demonstration of Toxicity

(1) Acute toxicity will be demonstrated if the effluent is observed to have a LC_{50} of less than 100% effluent for the test organism in 48 and 96 hours for Ceriodaphnia dubia or Pimephales promelas, respectively. If acute toxicity is found in any of the tests specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of the completion of the failed test to confirm results. If any two tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be suspended while the TRE is being conducted.

(2) If chronic toxicity exceeds levels specified in L.1. above, another toxicity test using the specified methodology and same test species shall be conducted within two weeks. If any two consecutive tests indicate the presence of toxicity, the permittee must begin the implementation of a toxicity reduction evaluation (TRE) as is described below.

(3) After three tests have been completed, that indicate no toxicity, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent.

3. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity exceeds the specified levels as defined in 1 above.

a. Development of TRE Plan

Within 90 days of demonstration of toxicity, the permittee shall submit plans for an

effluent toxicity reduction evaluation (TRE) to the Program Management and the Toxicology/Chemistry Sections of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicants and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluation is available from EPA and from EPA publications listed below:

Methods for Aquatic Toxicity Identification
Phase I Toxicity Characterization Procedures (EPA/600/3-88/034)
Phase II Toxicity Identification Procedures (EPA/600/3-88/035)
Phase III Toxicity Confirmation Procedures (EPA/600/3-88/036)

Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070)
Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants (EPA/600/2-88/062

b. Conduct the Plan

Within 30 days after approval of the TRE plan by the IDEM and U.S. EPA, the permittee must initiate an effluent TRE consistent with the TRE plan. While the TRE plan is being reviewed by the IDEM and U.S. EPA, whole effluent toxicity testing must continue at the affected outfall on a monthly basis. Progress reports shall be submitted every 90 days to the IDEM and U.S. EPA beginning 90 days after initiation of the study.

c. Reporting

Within 90 days of study completion, the permittee shall submit to the Compliance Evaluation and the Toxicology/Chemistry Sections of the Office of Water Quality of IDEM, the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of effluent toxicity.

d. Compliance Date

The permittee shall complete items a, b and c and reduce the toxicity to below the limitations established in 1 above according to the plan developed per 3a. above. WET monitoring will continue on the affected outfall(s) on a monthly basis until the toxicity has been reduced to below limitations detailed in 1 above.

M. REPORTING REQUIREMENTS FOR SOLVENTS, DEGREASING AGENTS, ROLLING OILS, WATER TREATMENT CHEMICALS AND BIOCIDES

Annually, US Steel will report as part of the fourth monthly Discharge Monitoring Report of the following year, the total quantity (lbs/year) of each solvent, degreasing agent, water treatment chemical, rolling oil and biocide that was purchased for that year and which can be present in any outfall regulated by this permit. This reporting requirement includes all surfactants, anionic, cationic and non-ionic, which may be used in part or wholly as a constituent in these compounds.

US Steel will maintain these files for a period of ten years. Files will include the Material Safety Data Sheet, FIFRA Label for each biocide, chemical name and CAS Number for each compound used. If these compounds contain proprietary material, US Steel may maintain this information in a separate file that can be accessed by U.S. EPA or IDEM personnel with appropriate authority.

N. TOXIC ORGANIC POLLUTANT MANAGEMENT PLAN

In order to use the Certification Statement for Total Toxic Organics on Page 36 of this permit, the Permittee is required to submit a management plan for toxic organic pollutants. The Toxic Organic Pollutant Management Plan is to be submitted to the Compliance Evaluation Section of the Office of Water Quality within ninety (90) days of the effective date of this permit, and is to include a listing of the toxic organic compounds used, the method of disposal, and procedures for ensuring that these compounds do not routinely spill or leak into the process wastewater, noncontact cooling water, groundwater, stormwater or other surface waters.

Upon review by IDEM of the above report and the GC-MS scan required on Page 36 of the permit, the Permittee may be required to perform additional specific monitoring for toxic organics, or may be allowed to use the Certification Statement on Page 36.

O. VISIBLE OIL CORRECTIVE ACTION MONITORING PROGRAM

Beginning on the effective date of the permit, the permittee shall monitor the Grand Calumet River and Lake Michigan, at Outfalls: 005, 010, 015, 017, 018, 019, 020, 030, 033, 034, 035, 036, and 037. Frequency of observation shall be 5 X weekly. This monitoring program shall be in the manner, and following the procedures and protocol, identified in the "Visible Oil Corrective Action Monitoring Plan" (Final Report; August 3, 1990; Gary Works, USS Division of WSX Corp.; Eichleay Engineers, Inc., EEI Project No. 9490-5). All records for this program shall be maintained at the facility for inspection and review by IDEM.

P. ZEBRA MUSSEL CONTROL AND CHLORINATION

As a means of controlling Zebra Mussel colonization within the U.S. Steel Company Gary Works, the permittee plans to chlorinate intake water on a continuous basis during the period between April 1 and November 30 of each year. Wastewater will be dechlorinated prior to discharge from an external Outfall(s). Currently, the affected outfalls are the following: 005, 010, 015, 017, 018, 019, 020, 021, 023, 026, 028, 030, 032, 033, 034, 035, 036, 037, 039, 040.

In addition to the numeric effluent limitations specified at each individual the following requirements shall apply:

The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ) as defined below. Compliance with this permit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for chlorine is less than the LOD as defined below. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOD. Effluent levels greater than or equal to the LOD but less than the LOQ are in compliance with the daily maximum WQBEL.

At present, two methods are considered to be acceptable to IDEM, amperometric and DPD colorimetric methods, for chlorine concentrations at the level of 0.06 mg/l.

Parameter	LOD	LOQ
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific method detection level (MDL) using the analytical method specified above, or any other test method which is approved by the IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by IDEM.

Q. CYANIDE REQUIREMENTS

The maximum holding time for cyanide (CN) is 24 hours when sulfide is present and 14 days when sulfide is absent, according to 40 CFR 136.3, Table IB. Therefore, CN is to be monitored by collecting a representative grab sample and analyzing it within 24 hours. Alternatively, if the permittee can demonstrate the wastewater contains no sulfide, the permittee may collect a composite sample and analyze it within 14 days.

R. MERCURY MONITORING REQUIREMENTS

Mercury monitoring shall be conducted bi-monthly (i.e. every other month) for the term of the permit. Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Beginning no later than twelve (12) months from the effective date of the permit, the permittee shall begin using EPA Test Method 1631, Revision C. If EPA Test Method 1631, Revision C is further revised during the term of the permit, the permittee and/or its contract laboratory are required to utilize the most current version of the method immediately after approval by EPA. Monitoring for mercury using EPA test method 1631 shall commence in accordance with the terms of the schedule of compliance outlined in Part I.E. of this permit.

PART II
STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit in accordance with 327 IAC 5-2-8(1). Any permit noncompliance constitutes a violation of the Clean Water Act, and the Environmental Management Act, and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee may claim an affirmative defense to a permit violation if the circumstances of the noncompliance meet the criteria of an upset as defined in Part II.B.3 of this permit.

2. Penalties for Violations of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit or of water pollution control laws or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation. Pursuant to IC 13-30-6, a person who intentionally, knowingly, or recklessly violates any provision of this permit or of water pollution control laws or a rule or standard adopted by the Water Pollution Control Board commits a class D felony punishable by the term of imprisonment established under IC 35-50-2-7(a), and/or by a fine of not less than two thousand five hundred dollars ($2,500) and not more than twenty-five thousand dollars ($25,000) per day of violation. A person convicted for a violation committed after a first conviction under this section is subject to a fine of not more than fifty-thousand dollars ($50,000) per day of violation.

Except as provided in permit conditions on "Bypass of Treatment Facilities," Part II.B.2., and "Upset Conditions," Part II.B.3., nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

3. Duty to Mitigate

Pursuant to 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

4. Permit Modification, Revocation and Reissuance, and Termination

Pursuant to 327 IAC 5-2-8(4)(A), 327 IAC 5-2-8(4)(C) and 327 IAC 5-2-16(b), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any term or condition of this permit;

b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts by the permittee in the application or during the permit issuance process.

c. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by this permit.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or any information specified in Part II.B.5 of this permit does not stay or suspend any permit term or condition.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

a. could significantly change the nature of, or increase the quantity of, pollutants discharged; or

b. the commissioner may request to evaluate whether such cause exists.

5. Duty to Provide Information Requested by the Commissioner

Pursuant to 40 CFR 122.41(h), the permittee shall furnish to the Commissioner, within a reasonable time, any information which the Commissioner may request to determine compliance with this permit. Pursuant to 327 IAC 5-1-3, the permittee shall furnish to

the Commissioner any reports or data necessary to carry out the provisions of 327 IAC 5 in such a manner as the Commissioner may reasonably prescribe.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. The Commissioner may grant permission to submit an application less than 180 days in advance of the expiration date of this permit but no later than the permit expiration date.

7. Permit Transfer

In accordance with 327 IAC 5-2-6(c), this permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. The current permittee notified the commissioner at least thirty (30) days in advance of the proposed transfer date.

d. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and that the transferee is liable for violations from that date on) is submitted to the commissioner.

e. The transferee certifies in writing to the commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.

f. The commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the

permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

9. Operator Certification

The permittee shall have the wastewater treatment facilities under the supervision of an operator certified by the Commissioner as required by IC 13-18-11 and 327 IAC 5-22.

10. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

11. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Property Rights

Pursuant to 327 IAC 5-2-8(6), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges.

13. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the application or such provision to other circumstances and the remainder of this permit shall not be affected thereby if such provisions can be given effect without the invalid provision or application.

14. Inspection and Entry

Pursuant to 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative (including an authorized contractor acting as a representative of the commissioner), upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a point source is located, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect, at reasonable times:

(1) any monitoring equipment or method;

(2) any collection, treatment, pollution management, or discharge facilities: or

(3) practices required or otherwise regulated under the permit.

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestream (where necessary to ascertain the nature of a discharge of pollutants) for the purposes of evaluating compliance with this permit or as otherwise authorized.

15. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environmental Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality, Industrial NPDES Permits Section, P.O. Box 6015, Indianapolis, IN 46206-6015.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a pollutant or pollutant parameter that is not a BCC unless one of the following is completed prior to the commencement of the action:

a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality as defined under 327 IAC 5-2-11.3(b)(1). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 5-2-11.3(b)(3) and (4).

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

a. Terms as defined in 327 IAC 5-2-8(11)(A):

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. The permittee may allow a bypass to occur that does not exceed any effluent limitations contained in this permit, but only if it is for essential maintenance to assure efficient operation. The permittee is not required to notify the Commissioner about bypasses that meet this definition. This provision will be strictly construed. These bypasses are not subject to the provisions of Part II.B.2.d and e of this permit.

c. Bypasses, as defined in (a) above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.B.2.e; or

(4) The condition under Part II.B.2.b above is met.

d. In accordance with 327 IAC 2-6.1, bypasses which result in damage or death are subject to the "Two-Hour Reporting Requirements" in Part II.C.3. of this permit.

e. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) The permittee shall orally report an unanticipated bypass that exceeds any effluent limitation in the permit within 24 hours of becoming aware of the bypass noncompliance. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the event.

f. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.c. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for

noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and

(3) The permittee complied with any remedial measures required under Part II.A.3.

(4) The permittee submitted notice of the upset as required in the "Two Hour Reporting Requirements," Part II.C.3, or the "Twenty-Four Hour Reporting Requirements," Part II.C.4, whichever is applicable.

d. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

a. Collected screenings, slurries, sludges, and other such pollutants shall be disposed of in accordance with methods established in 329 IAC 10 and 327 IAC 6.1, or another method approved by the Commissioner.

b. The permittee shall comply with existing federal regulations governing solids disposal, and with applicable 40 CFR Part 503, the federal sludge disposal regulation standards.

c. The permittee shall notify the Commissioner prior to any changes in sludge use or disposal practices.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F), the permittee shall give notice to the commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. In this context, permitted facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as outlined in 327 IAC 5-1.5.

b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject either to effluent limitations in Part I.A. or to notification requirements in Part II.C.10. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Discharge Monitoring Report", Part I.C.2.

3. Two-Hour Reporting Requirement

Pursuant to 327 IAC 2-6.1, any discharge of pollutants to waters of the State from the permittee's collection system or wastewater treatment plant which results in damage, acute injury, or death to any humans, animals, or aquatic life must be reported as soon as possible, but within two (2) hours after the permittee becomes aware of the occurrence. (This includes any discharge regardless of whether or not it is authorized by the NPDES permit.)

Any discharge of pollutants which enters waters of the state from the permittee's collection system or wastewater treatment plant and which is not authorized by the NPDES permit must also be reported within two (2) hours after the permittee becomes aware of the occurrence. (Note: Only those outfalls which are specifically identified in

Part I.A of this permit are considered to be authorized discharges under this NPDES permit.) Any unauthorized discharge of pollutants from the collection system which does not reach waters of the state must be reported to the IDEM in accordance with the "Twenty-Four Hour Reporting Requirements" in Part II.C.4.

The permittee is required to notify IDEM's Office of Land Quality, Emergency Response Section at 317/233-7745 or 888/233-7745 (toll-free within Indiana) of any discharges which meet the criteria of 327 IAC 2-6.1.

4. Twenty-Four Hour Reporting Requirement

Pursuant to 327 IAC 5-2-8(10)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance:

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any noncompliance that may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances;

c. Any upset that causes an exceedance of any effluent limitation in the permit.

d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: **All parameters** in the discharge limitations tables of the permit except $CBOD_5$, Total Suspended Solids, Oil & Grease, pH, Ammonia, Total Residual Chlorine, and Temperature.

The permittee can make the oral reports by calling (317) 232-8670 during regular business hours or by calling (317) 233-7745 ((888) 233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Fax Report" or a "Noncompliance Notification Report", whichever is appropriate, to IDEM at
(317) 232-8637. If a complete fax submittal is sent within 24 hours of the time that the

permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

5. Other Noncompliance

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.4 or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in the compliance schedule.

6. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

7. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a responsible corporate officer defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars (25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a Federal, State, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Certification. Any person signing a document identified under Part II.C.7., shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

8. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

9. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports

or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

10. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels."

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) A notification level established by the Commissioner on a case-by-case basis, either at his own initiative or upon a petition by the permittee. This notification level may exceed that levels specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).

b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

PART III
OTHER REQUIREMENTS

A. THERMAL EFFLUENT REQUIREMENTS

1. The quantity of thermal discharge shall be calculated for Outfalls 005, 010, 015, 018, 019, 020, 028/030, and 035 . Such discharge shall be limited and monitored by the permittee as specified below:

   a. Flow and temperature values used in thermal discharge calculations shall be taken from the same day of monitoring.

   b. The thermal discharge shall be computed as follows:

      Thermal Discharge (E*6 Btu/Hr.) = Q x (To - Ti) x 0.3477

      where,

      E*6, Converts to million Btu/Hr.
      Q = 24 hour discharge flow, mgd.
      To = 24 hour average effluent temperature, ^{o}F
      Ti = 24 hour average influent temperature, ^{o}F
      0.3477, conversion factor

   c. Monitoring and reporting of the discharge temperature is to occur on a continuous basis. Temperature limits are outlined in 327 IAC 2-1.5-8(c)(4)(C) and shall be applicable to the permitted discharge. At no time shall the water temperature at Outfall 005 exceed the maximum limits in the Temperature Table below, by more than three degrees Fahrenheit (3^{o}F). The remaining outfalls (010, 015, 018, 019, 020, and 028/030) may either meet the temperature limitations at the end of pipe or after using the mixed river temperature equation below and at no time shall the water temperature calculated from the equation below exceed the maximum limits in the Temperature Table below by more than three degrees Fahrenheit (3^{o}F).:

$$T_{MR} = T_u + \frac{Q_e(T_e - T_u)}{[Q_{stream}] + Q_e}$$

where:

T_{MR} = mixed river temperature (^oF)
T_u = upstream river temperature (^oF)
T_e = effluent temperature (^oF)
Q_e = effluent flow (MGD)
$Q_{stream(x)}$ = [See below, by Outfall]

Outfall	$Q_{stream(x)}$ (MGD)
010	61.1
015	62.5
018	64.2
019	114.1
020	165.9
028/030	230.9

For example these temperature reading in the month of March:

T_u = 56 ^{o}F
T_e = 62 ^{o}F
$Q_{e(10)}$ = 1.5 MGD
$Q_{stream(10)}$ = 61.1 MGD

T_{MR} = 56 ^{o}F + ((1.5 MGD*(62 ^{o}F-56 ^{o}F)/((61.1 MGD+1.5 MGD))
= 56 ^{o}F + 0.14 ^{o}F = 56.14 ^{o}F , which would be in compliance for the Temperature readings of 60 ^{o}F.

Upon implementing continuous temperature monitoring, Temperature measurements shall be recorded in one minute intervals.

Upon implementing continuous temperature monitoring, water temperatures shall not exceed the maximum limits in the Temperature Table below, by more than one percent (1%) of the hours (5, 256 minutes) in the twelve (12) month period ending with any month.

Temperature measurements shall be recorded continuously in one minute intervals, and the total number of minutes above the corresponding maximum limits in Temperature Table below for twelve (12) months shall be reported. The twelve (12) months shall include the current month and the previous eleven

(11) months of temperature data.

Temperature Table
Monthly Maximum Temperatures (°F)

January	February	March	April	May	June
50	50	60	70	80	90

July	August	September	October	November	December
90	90	90	78	70	57

d. Water temperature shall not exceed the maximum limits in the table above during more than one percent (1%) of the hours in the twelve (12) month period ending with any month; at no time shall the water temperature at such locations exceed the maximum limits in subsection d above by more than three degrees Fahrenheit (3°F).

e. See Part III.A.3. below for the applicable compliance schedule.

2. The following temperature effluent limitations shall apply to Outfalls 035, 036, 037, and 039:

a. In all receiving waters, the points of measurement normally shall be in the first meter below the surface at such depths necessary to avoid thin layer surface warming due to extreme ambient air temperatures, but where required to determine the true distribution of heated wastes and natural variations in water temperatures, measurements shall be at a greater depth and at several depths as a thermal profile.

b. There shall be no abnormal temperature changes so as to be injurious to fish, wildlife, or other aquatic life, or the growth or propagation thereof. In addition, plume interaction with the bottom shall be minimized and shall not injuriously affect fish, shellfish, and wildlife spawning or nursery areas.

c. Flow and temperature shall be continuously monitored at each of the Intake Structures and at Outfall(s) 035, 036, 037, and 039 discharge.

d. At any time and at a maximum distance of a one thousand (1,000) foot arc inscribed from a fixed point adjacent to the discharge:

(1). The receiving water temperature shall not be more than three degrees

Fahrenheit (3^0F) (one and seven-tenths degrees Celsius (1.7^0C)) above the existing natural water temperature; and

(2). Thermal discharges to Lake Michigan shall comply with the following maximum temperature requirements:

a. The thermal discharge to Lake Michigan shall not raise the maximum temperature in the receiving water above those listed in the following table, except to the extent the permittee adequately demonstrates that the exceedance is caused by the water temperature of the intake water:

Maximum Water Temperature ^{0}F(^{0}C)

January	45 (7)	July	80 (27)
February	45 (7)	August	80 (27)
March	45 (7)	September	80 (27)
April	55 (13)	October	65 (18)
May	60 (16)	November	60 (16)
June	70 (21)	December	50 (10)

b. If the permittee demonstrates that the intake water temperature is within three (3) degrees Fahrenheit below an applicable maximum temperature under the above table in (1), then no more than a three(3) degree Fahrenheit exceedance of the maximum water temperature shall be permitted.

3. SCHEDULE OF COMPLIANCE FOR TEMPERATURE REQUIREMENTS

a. The permittee shall achieve compliance with the effluent limitations and continuous monitoring requirements for Temperature at Outfall(s) 005, 010, 015, 018, 019, 020, 028/030, 036, 037, and 039 in accordance with the following schedule:

(i) The permittee shall submit a written progress report to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. The progress report shall include a description of the method(s) selected for meeting the newly imposed limitation and continuous monitoring requirements for temperature, in addition to any other relevant information. The new effluent limits and continuous monitoring

requirements for temperature are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the newly imposed effluent limits and/or continuous monitoring requirements for temperature can be met. Upon receipt of such notification by OWQ, the final limits and/or continuous monitoring requirements for temperature will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of the effluent for temperature is required during the interim period.

(ii) If construction is required to meet the new effluent limits, initiation of construction shall commence no later than eighteen (18) months from the effective date of this permit.

(iii) The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ on the aforementioned construction no later than twenty seven (27) months from the effective date of this permit.

(iv) Construction shall be completed within thirty-five (35) months from the effective date of this permit. The permittee shall submit a written progress report to the Compliance Evaluation Section of OWQ when construction has been completed.

(v) Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

(vi) The permittee shall comply with the final effluent limitations and continuous monitoring requirements for temperature no later than thirty-six (36) months from the effective date of this permit.

b. If the permittee fails to meet any of the above actions in the foregoing schedule by more than fourteen (14) days, the permittee shall submit a written notice of noncompliance to the Compliance Evaluation Section of OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the remaining terms of the schedule.

c INTERIM THERMAL EFFLUENT REQUIREMENTS

1. During the compliance schedule, US Steel shall meet the following interim thermal effluent requirements. The quantity of thermal discharge shall be

calculated for Outfalls 005, 007, 010, 015, 018, 019, and 020. Such discharge shall be limited and monitored by the permittee as specified below:

(i) Flow and temperature values used in thermal discharge calculations shall be taken from the same day of monitoring.

(ii) The thermal discharge shall be computed as follows:

Thermal Discharge (E*6 Btu/Hr.) = Q x (To - Ti) x 0.3477

where,

E*6, Converts to million Btu/Hr.
Q = 24 hour discharge flow, mgd.
To = 24 hour average effluent temperature, ^{o}F
Ti = 24 hour average influent temperature, ^{o}F
0.3477, conversion factor

(iii) The permittee shall monitor the temperature of the Grand Calumet River at Broadway and downstream of Outfall 034 at the Clark Street Bridge weekly during the months of June, July, August and September, and twice per month during the other months of the year. The measurements shall be taken at three equally spaced intervals across the width of the river at Clark Street. The measurements shall be taken between the hours of 4:00 p.m. and 6:00 p.m., the time period with the highest river temperatures of the day. Within twelve months of the effective date of this permit, a permanent temperature monitoring station shall be installed and operated in the Grand Calumet River at Broadway (mid-stream, mid-depth).

(iv) Thermal content of the U.S. Steel discharges shall not raise the downstream temperature at the Broadway Street Bridge and the Clark Street Bridge above the maximum Indiana Water Quality Standards temperatures below except as noted in Section e. which follows:

Monthly Maximum Temperatures (^{o}F)

January	February	March	April	May	June
50	50	60	70	80	90

July	August	September	October	November	December
90	90	90	78	70	57

(v) Water temperature shall not exceed the maximum limits in the table during more than one percent (1%) of the hours in the twelve (12) month period ending with any month; at no time shall the water temperature at such locations exceed the maximum limits in subsection d above by more than three degrees Fahrenheit (3°F) (one and seven-tenths degree celsius (1.7°C).

B. Biocides

The permittee must receive written permission from the IDEM to use any biocide or molluscicide other than those which have been submitted and approved at the time of permit effectiveness. The use of any biocide containing tributyl tin oxide is prohibited.

C. Intake Screen Wash

There shall be no discharge of debris from intake screen washing operations which will settle to form objectionable deposits, which is in amounts sufficient to be unsightly or deleterious, or which will produce colors or odors constituting a nuisance.

D. Polychlorinated Biphenyl

There shall be no discharge of polychlorinated biphenyl (PCBs) compounds such as those commonly used for transformer fluid.

E. Special Reporting Requirements for averaging analytical values when one or more of the values are below the LOQ.

1. NPDES effluent data are to be reported on the monthly DMRs as follows:

a. Daily Values

(i) Effluent concentrations less than the limit of detection (LOD) shall be reported as less than the value of the LOD. For example, if a substance is not detected at a concentration of one (1.0) milligram per liter, the value shall be reported as < 1.0 mg/l.

(ii) Effluent concentrations greater than or equal to the LOD shall be reported at

the measured result. Effluent concentrations greater than or equal to the LOD and less than the limit of quantitation (LOQ) that are reported on a DMR shall be annotated on the DMR to indicate that the result is not quantifiable.

(iii) Mass discharge results which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge result.

(iv) Mass discharge results that are calculated from effluent concentrations greater than the limit of detection shall be reported at the calculated result.

b. Monthly Average of Daily Values

(i) For fecal coliform, the average monthly discharge and average weekly discharge, as concentrations, shall be calculated using a geometric mean.

(ii) For E. coli, the average monthly discharge, as a concentration, shall be calculated using a geometric mean.

(iii) For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, and for selenium, calculations that require averaging of measurements of daily results (both concentration and mass) shall use an arithmetic mean. When a daily discharge result is less than the LOQ, the equation in Part III.E.2., below shall be used to calculate a daily discharge value that shall be used in the calculation of the monthly average in place of the actual daily discharge result.

(iv) For all parameters for which the monthly average WQBEL is less than the LOQ (except for selenium), daily effluent results, used in the determination of a monthly average effluent level, that are less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the LOD, and appropriate statistical techniques, a value other than zero (0) is warranted.

2. Averaging Analytical Values When One or More Values are Less Than the LOQ

a. Where the permittee samples more than once per month and obtains an analytical data base that contains concentration results below the LOQ, the permittee shall utilize the following protocol that sets a value to be used for analytical results below the LOQ according to their frequency of occurrence. These values can then be used to calculate the average value for DMR reporting.

(i) or results that are less than the LOD:

V_{LOD} (value or values substituted for LOD results) = (LOD) * (F_{LOD}) Eqn. 1

Where:

$$F_{LOD} = 1 - \frac{\text{Number of Results Less Than the LOD}}{\text{Total Number of Results}} \qquad \text{Eqn. 2}$$

(ii) For results that are less than the LOQ (including results that are less than the LOD):

V_{LOQ} (value or values substituted for LOQ results) = (LOQ) * (F_{LOQ}) Eqn. 3

Where:

$$F_{LOQ} = 1 - \frac{\text{Number of Results Less Than the LOQ}}{\text{Total Number of Results}} \qquad \text{Eqn. 4}$$

b. Process of generating database to be used to calculate monthly averages:
(i) For concentration values:

1. LOD = The concentration-based LOD obtained from the table of analytical methods and detection and quantitation levels in Section 3 of this Part, below.

2. LOQ = The concentration-based LOQ obtained from the table of analytical methods and detection and quantitation levels in Section 3 of this Part, below

3. All individual concentration results below the concentration-based LOD are assigned the value of V_{LOD}. This "V" is referred to as the "V_{LOD}-conc".

4. All individual results below the concentration-based LOQ, but greater than or equal to the LOD are assigned the value of V_{LOQ}. This "V" is referred to as the "V_{LOQ}-conc".

(ii) For mass values:

1. Generate a mass result from the corresponding concentration result and flow, converted to mass. This result is presented on the DMR.

2. The "Number of Results Less Than the LOD", as used in Equation 2, is the number of concentration results below the concentration-based LOD.

3. The "Number of Results Less Than the LOQ", as used in Equation 4, is the number of concentration results below the concentration-based LOQ (including the number of results less than the concentration-based LOD).

4. The mass-based LOD, as used in the calculation of "V", as used in Equation 1, is obtained from the table of analytical methods and detection and quantitation levels

in Section 3 of this Part, below. This "V" is referred to as the "V_{LOD}-mass".

5. The mass-based LOQ, as used in the calculation of "V", as used in Equation 3, is obtained from the table of analytical methods and detection and quantitation levels in Section 3 of this Part, below. This "V" is referred to as the "V_{LOQ}-mass".

6. If the corresponding concentration result is less than the concentration-based LOD, then the mass value is the V_{LOD}-mass.

7. If the mass result is less than the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ}-mass is used.

8. If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ}-mass is used.

9. If the mass result is less than the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.

10. If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.

All data points now have values and can be arithmetically averaged.

Example:

Discharge Data:
Assume the following are true:

The effluent flow used is 1.0 MGD
Concentration-based permit limits are 15 µg/l as a monthly average and 20 µg/l as a daily maximum.
Mass-based permit limits are 0.13 lbs/day monthly average and 0.17 lbs/day daily maximum.

Concentration-based LOD is 3.2 µg/l
Concentration-based LOQ is 10 µg/l
Mass-based LOD is 0.027 lbs/day
Mass-based LOQ is 0.083 lbs/day

Actual Data (DMR Results)			Calculated Data (See Below)	
Concentration (µg/l)	Flow (MGD)	Mass (lbs/day)	Concentration (µg/l)	Mass (lbs/day)
<3.2	0.9	<0.02	2.84	0.024
8	1.5	0.10	6.67	0.055
23	0.6	0.12	23	0.12
12	1.2	0.12	12	0.12
8	0.9	0.06	6.67	0.055
15	0.8	0.10	15	0.10
20	0.6	0.10	20	0.10
18	1.1	0.17	18	0.17
12	0.6	0.06	12	0.06
Monthly Average (for DMR) =			13	0.089

Concentration monthly average calculations:

The number of results below the concentration-based LOD is one (1), and the total number of values is nine (9), therefore:

F_{LOD} = 1-(1/9) = 0.889
V_{LOD}-conc = (3.2) * 0.889 = 2.84 ug/l

The number of results below the concentration-based LOQ (including the results below the concentration-based LOD) is three (3), and the total number of values is nine (9), therefore:

F_{LOQ} = 1-(3/9) = 0.667

V_{LOQ}-conc = (10) * 0.667 = 6.67 ug/l

For the purposes of calculating a monthly average value to put on the DMR, the one (1) daily result below the LOD is assigned a value of 2.84 µg/l, and the two daily results below the LOQ (but greater than or equal to the LOD) are each assigned a value of 6.67 µg/l. (The concentration values of 2.84 µg/l and 6.67 µg/l shall not be put on the state DMR, instead, the daily results are to be put on the state DMR.)

The arithmetic average is: (2.84+6.67+23+12+6.67+15+20+18+12)/9 = 13 µg/l.

The permittee would report a daily maximum of 23 µg/l and a monthly average of 13 µg/l on the DMR forms. In this example, the permittee complies with the monthly average permit limit but has a violation of the daily maximum limit.

Mass monthly average calculations:

The number of mass results is nine (9). The number of mass results calculated from a corresponding concentration result less than the concentration-based LOD is one (1). This mass result is assigned a mass value that is calculated as follows:

V_{LOD}-mass = (0.027 lbs/day) * 0.889 = 0.024 lbs/day

[NOTE: F_{LOD} = 0.889 based on the number of concentration results less than the concentration-based LOD]

The number of mass results calculated from a corresponding concentration result less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD is two (2). These two (2) mass results are assigned a mass value that is calculated as follows:

V_{LOQ}-mass = (0.083 lbs/day) * 0.667 = 0.055 lbs/day

[NOTE: F_{LOQ} = 0.667 based on the number of concentration results less than the concentration-based LOQ (including the number of concentration results less than the concentration-based LOD)]

The arithmetic average is: (0.024+0.055+0.12+0.12+0.055+0.10+0.10+0.17+0.06)/9 = 0.089 lbs/day.

The permittee would report a daily maximum of 0.17 lbs/day and a monthly average of 0.089 lbs/day on the DMR forms. In this example, the permittee complies with both the monthly average and daily maximum permit limits.